PERSONALITY AS A SUBJECT OF LIFE: PROBLEMS OF HEALTH AND DISEASE

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КЛИНИКО-ПСИХОЛОГИЧЕСКИЕ АСПЕКТЫ УСПЕШНОСТИ ПРОХОЖДЕНИЯ ПРОЦЕДУРЫ ЭКСТРАКОРПОРАЛЬНОГО ОПЛОДОТВОРЕНИЯ

CLINICAL AND PSYCHOLOGICAL ASPECTS OF THE SUCCESS
OF THE EXTRACORPOREAL FERTILIZATION PROCEDURE PROCESS

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Аннотация:

Статья посвящена изучению клинико-психологических аспектов успешности прохождения процедуры экстракорпорального оплодотворения. В исследовании рассмотрена проблема влияния личностных детерминант в контексте жизненного пути личности женщины на успешность прохождения процедуры экстракорпорального оплодотворения с позиций биопсихосоциального подхода. Автором описываются методы изучения личностных детерминант, оказывающих влияние на успешность/неуспешность процедуры экстракорпорального оплодотворения. В качестве результатов исследования автор предоставляет объективные данные статистической обработки личностных детерминант успешности/неуспешности процедуры экстракорпорального оплодотворения.

Abstract:

This article is devoted to a study of the clinical and psychological aspects of success of the in vitro fertilization procedure. The study examined the problem of an influence of personality determinants in the context of the life course of a woman's personality on the success of the in vitro fertilization procedure from the standpoint of a biopsychosocial approach. The author describes methods of studying personality determinants that affect the success/failure of the in vitro fertilization procedure. As a result of the study, the author provides objective data on the statistical processing of personal determinants of success/failure of the in vitro fertilization procedure. The author considers infertility as a specific response of the organism to conflicts formed in the context of a person's life path. Based on objective methods of analysis, the

Автор рассматривает бесплодие как специфический ответ организма на конфликты, сформированные в контексте жизненного пути личности. На основе объективных методов анализа автор формулирует выводы, соответствующие целям, задачам и поставленной проблеме исследования. В заключении делается вывод о критериях адаптации и дезадаптации, которые выступают в качестве личностных детерминант, оказывающих влияние на исход процедуры ЭКО.

Ключевые слова:

бесплодие, экстракорпоральное оплодотворение, жизненный путь, адаптация, дезадаптация, переживание, готовность к материнству, личностная зрелость.

author formulates conclusions that are consistent with the goals, objectives and the research problem posed. As a result, there is made a conclusion about the criteria for adaptation and disadaptation, which act as personal determinants that influence the outcome of the IVF procedure.

Key words:

infertility, in vitro fertilization, life path, adaptation, disadaptation, experience, readiness for motherhood, personal maturity.

Relevance

Infertility in marriage is a unique problem in medicine, which is associated with two circumstances: first of all, this pathological condition is determined by the health of both spouses; secondly, the reproductive health of a woman largely depends on many factors caused by a combination of social, mental ill-being, almost always physical ill health and psychological stress in the family. The social consequences of a barren marriage include: a decline in the social activity of the most efficient group of the population; a sharp increase in the number of divorces among this contingent; the impact of the frequency of infertile marriage on the demographic situation in the population and the state as a whole.

The prevalence of infertility in Russia on average is about 14% (in various sources, this number changes from 8 to 17.8%). The statistical data of the World Health Organization Guidelines for the Standardized Examination and Diagnosis of Infertile Couples gives 22 reasons for women infertility and 16 causes for men infertility. The cause of infertile marriage in 40-50% of cases is the pathology of the reproductive system equally, both men and women, and in 5-10% - the pathology of both spouses. In 10% of all cases of female infertility is infertility of unclear genesis, one of the reasons for which some authors consider psychogenic factors: stress, emotional impact, various subconscious conflicts.

The relevance and scientific novelty of the present study is based on the fact that the author has made the first attempt to study the adaptation criteria that are formed in

the context of the life course of a woman's personality and have a net effect on the success of the extracorporeal fertilization procedure (IVF) [1-3]. Existing studies are aimed at studying the emotional, motivational and need areas of a woman in an IVF program, as well as studying the psychophysiological state of a woman [4-10]. The author proves the relevance of the study of personality determinants that affect the success of a woman in vitro fertilization procedure (IVF) from the standpoint of the biopsychosocial approach [1,3,11,14,19]. Disadaptation criteria, formed in the context of a person's life path and considered as predictors of a failure of IVF procedures, serve as targets of psychotherapeutic influence, the purpose of which is to restore the reproductive health of a woman who has a diagnosis of "infertility" and is in a situation undergoing IVF procedure [12-18].

Aim and objectives

The aim of the study was the identification of personality determinants that influence the success of in vitro fertilization.

In connection with the aim, the following objectives were distinguished:

1. To study the context of the life course of women in the in vitro fertilization program;
2. To study the specifics of experiencing a situation of violation of the reproductive sphere of women who are in the program of in vitro fertilization as a special life situation;
3. To study the features of the hierarchy of social roles of women in the in vitro fertilization program;
4. To identify the level of personal maturity of women in the in vitro fertilization program;
5. To examine the readiness to motherhood of women in the in vitro fertilization;
6. To develop a program of psychological support for women who are in a situation of in vitro fertilization.

Materials and methods

The study used the following methods:

1. Structural interview.
2. Psychodiagnostic methods:
Test "Family Environment Scale" in the adaptation of S.Yu. Kupriyanova;
Test "Determination of role positions in interpersonal relations" by E. Berne [7];
Questionnaire of satisfaction with marriage – V.V. Stolin, T.L. Romanova,
G.P. Butenko;

Test "Life-Oriented preferences" D.A. Leontiev [20]

Test "The level of reflexivity" A.V. Karpov [16];

Test "Locus of Control" in the adaptation by E.G. Ksenofontova [17];

Questionnaire of the social and psychological attitudes of the individual in the motivational and need sphere by O.F. Potemkina.

3. Projective methods:

Test of egocentric associations (EAT);

Test "Who am I" by M. Kuhn;

Modified eight-color test by M. Luscher;

Projective methodology for studying the life course of the personality "Life Line" in the adaptation by T.D. Vasilenko [12];

Test "Figures" by G.G. Filippova [18];

Pictorial test "Me and my child" by G.G. Filippova [16, 18].

4. Methods of mathematical data processing.

An empirical research was carried out on the basis of the Kursk Regional Perinatal Center OBUZ. The control group consisted of pregnant women who successfully (in 1-3 attempts) passed the procedure of in vitro fertilization in the amount of 22 people. The experimental group consisted of women who failed (repeatedly, from 3 to 5 attempts during the experiment) the procedure of in vitro fertilization in the amount of 20 people.

Important conditions for the selection of subjects were:

1. The social status of women (a group of women were married);

2. Age of women (the group consisted of women aged 23 to 35 years);

3. Experience of treatment for infertility (the group consisted of women who have experience of treatment for infertility for a period of 3 to 5 years);

4. Negative experience of pregnancy (the sample consisted of women who have no experience of abortion (abortion), experience of miscarriage (miscarriage));

5. The presence of children (the sample consisted of women who do not have older children).

Results and discussion

In our study, we assumed that the success of the in vitro fertilization procedure is ultimately affected by the event context of a person's life path. As a result of statistical processing of data according to the "Life Line" method in the adaptation of T.D. Vasilenko significant differences in the scales of "Professional activity" ($p=0.001$), "Health" ($p=0.000$), "Existential problems" ($p=0.001$) were obtained. Thus, the event context of a person's life path acts as a factor in the success or non-success of the in vitro fertilization procedure (Table 1).

Table 1.

**Event context of the life path in the situation of passing an IVF procedure
 (differences in scales of the “Life Line” methodology in the adaptation
 of T.D. Vasilenko)**

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Professional activity	0,27	1,25	0,45	0,91	0,001
Health	0,27	2,75	0,45	1,97	0,000
Existential problems	0,8	3,1	0,68	1,13	0,000

As a result of statistical data processing, we identified significant differences according to the method “Life-oriented preferences” by D.A. Leontiev on the scales “Locus of control I” ($p=0.010$), “Locus of control – Life” ($p=0.010$). Thus, women with a negative experience with the IVF procedure have a tendency to control their lives, freedom of choice, unlike women with a positive experience with the IVF procedure (Table 2).

Table 2.

**Features of the semantic component of experiencing a situation of infertility
 (differences in the scales of the method “Meaningful life orientations”
 by D.A. Leontiev)**

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Locus control-I	24	20	4,4	3,8	0,010
Locus control-Life	30	28	6	5.1	0.048

In the study of the emotional component of experiencing an IVF situation, the statistical processing of the results of the Luscher Eight-Color Test did not reveal significant differences in the emotional sphere of women with successful experience of an in vitro fertilization procedure and unsuccessful experience of this procedure. An equally high level of anxiety was found in both the control and experimental groups. However, a high level of anxiety in the group of women who has successfully passed the IVF procedure is associated with fear for the course and outcome of pregnancy and childbirth. In the group of women whose in vitro fertilization procedure did not

give a positive result, a high anxiety rate is associated with the IVF procedure itself, the fear of subsequent unsuccessful attempts.

We have analyzed the cognitive component of experiencing the situation of in vitro fertilization, and obtained some statistically significant differences in the scales of the test “Family Environment Scale” in the adaptation of S.Yu. Kupriyanov (Table 3).

Table 3.

Features of the cognitive component of experiencing a situation of infertility (differences in scales of the “Family Environment Scale” method in the adaptation by S.Yu. Kupriyanov)

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Cohesion	6.5	4.5	1.18	1.31	0,000
Expressiveness	6.1	3.1	1.24	1.16	0,000
Conflict	5.8	3.2	0.9	1	0,000
Independence	6.3	2.8	1.25	1.43	0,000
Orientation to Achievement	5.7	3.3	1.2	1.3	0,000
Intellectually cultural Orientation	5.5	2.1	1.5	0.9	0,000
Active rest	5.4	2.6	1.14	1.18	0,000
Morally-moral aspect	6	3.1	1.25	1.13	0,000
Organization	5	2.5	1.15	1.46	0,000
Control	5.5	2.1	1.6	1	0,000

The obtained data indicate that women who have not successfully passed the IVF procedure, have low rates on the questionnaire scales compared to women who have successfully completed this procedure. Differences on the “Unity” family scale indicate that family relationships are less sincere and trusting in the group of women with unsuccessful in vitro fertilization experience, they have fewer common expectations and attitudes that manifest themselves in the process of communication. There is a lack of mutual empathy, empathy, sympathy, complicity in such families. Women with successful experience in passing an IVF procedure are focused on active participation in family life events, maintaining and developing strong, trusting relationships, and are also able to provide attention and support to family members. There were identified significant differences ($p=0.000$) according to the questionnaire “Marriage Satisfaction” by V. Stolin, T.L. Romanova, G.P. Butenko as a result of statistical processing (Table 4).

Table 4.

**Differences in the Marriage Satisfaction Questionnaire by V.Stolin,
 T.L. Romanova, G.P. Butenko**

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Satisfied with being married	38	30	5	6,3	0,000

The data show that in the experimental group of women with unsuccessful IVF experience, the level of satisfaction with marriage is significantly lower than in the control group of women with positive in vitro fertilization experience.

As a result of statistical data processing, we identified significant differences according to the "Questionnaire of social and psychological attitudes of the person" method by O.F. Potemkina on the scales "Result" ($p=0.040$), "Freedom" ($p=0.029$) (Table 5).

Table 5.

Socio-psychological attitudes (differences in the scales of the "Questionnaire socio-psychological attitudes of the individual" by O. Potemkina)

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Result	6.3	5	1.6	2.2	0.040
Freedom	3.7	5.2	2.1	2	0.029

The data suggests that women with successful experience of in vitro fertilization have a set-up for "Result", they strive to achieve results in their activities against all odds – hustle, interference, and failure.

As a result of the analysis of the time component as a result of statistical data processing, we identified significant differences in the Life Line method in the adaptation of T.D. Vasilenko on the scales "Total load", "Negative events", "The proportion of past events", "Assessment of the present point", "Graphic temporary orientation to the future" (Table 6).

Table 6.

**Features of the temporary component of experiencing a situation of infertility
 (differences in scales of the “Life Line” methodology in the adaptation
 by T.D. Vasilenko)**

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Total loading	12	20	3.1	7.3	0.000
Negative events	1.9	8.4	1.1	3.3	0.000
Specific gravity past	0.7	0.8	0.09	0.07	0.001
Point evaluation present	4.4	-0.5	0.7	1.6	0.000
Graphic temporary orientation to future	0.2	0.09	0.08	0.07	0.001

Thus, women of the experimental group are prone to negative assessment of past events in the event context of their life path. They are not focused on the future, cautiously make plans for the future, prefer to live with the negative past, which is an obstacle to the conception of a child. Women with unsuccessful experience of passing an IVF procedure tend to evaluate their life situation at a given time negatively, compared to women who have passed the procedure successfully. Thus, the context of the life path is a factor in the success or failure of the process of in vitro fertilization at the present time.

We identified significant differences according to the method of “Role positions in interpersonal relations” by E. Berne by the ego state “Adult” ($p=0.007$). In the group of women who have successfully passed the IVF procedure, the three ego states (Parent, Adult, Child) are not evenly distributed (the “Adult” position prevails).

These techniques are confirmed by the results of the M. Kuhn test “Who am I”. Statistically significant differences were identified on the “Family Roles” ($p=0.022$) and “Parent Roles” ($p=0.000$) scales (Table7).

Table 7.
Features of role positions (differences in scales of the M. Kuhn test “Who am I?”)

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Family roles	3.4	2.2	1.59	1.64	0.022
Parental roles	1	0.3	0.61	0.48	0.000

Women who have successfully completed the IVF procedure have more prominent family roles than women who have not successfully passed the IVF procedure. This is due to the fact that they are more focused on the processes and events occurring in their own family. Thus, the representation of family and parental roles is a characteristic of a group of women who have successfully completed the procedure of in vitro fertilization.

We assumed that the parameters of personal maturity, such as reflexivity, egocentrism, locus of control, act as personal determinants of success of the IVF procedure. We obtained statistically significant differences in indicators: locus of control (method “Locus of Control” by E.G. Ksenofontov ($p=0.030$)); reflexivity (reflexivity level methodology by A.K. Karpov ($p=0.020$)); egocentrism (test “Egocentric associations”, ($p=0.000$)) (Table8).

Table 8.
Features of the parameters of personal maturity

Variables	M (successful IVF)	M (unsuccessful IVF)	SKO (successful IVF)	SKO (unsuccessful IVF)	p-level
Locus control	20	16	5.8	3.2	0.030
Reflexivity	3.7	15.6	2.2	6.1	0.020
Egocentrism	5.5	4.4	1.5	1.5	0.000

In the group of women who have successfully completed the IVF procedure, an internal locus of control, an average level of reflexivity, and an average level of egocentrism are noted. Among women with an unsuccessful experience of the IVF procedure, an external locus of control, a low or high level of reflexivity, a low or high level of egocentrism are noted.

In the study of the type of readiness for motherhood, as a criterion for adopting a maternal role as a result of statistical data processing, we identified significant differences according to the "Figures" method of G.G. Philippi ($p=0.000$). In the group of women who have successfully passed the IVF procedure, there is a favorable type of readiness for motherhood, represented by an adequate type. Among women with unsuccessful experience of the passage of the IVF procedures are marked by an unfavorable type of readiness for motherhood, represented by an anxious ignoring type.

Conclusions

As a result of the study, we formulated the following conclusions:

1. The context of the life path of an individual is a factor of the success/failure of an in vitro fertilization procedure and has specific features in women with unsuccessful experience in passing an IVF procedure. The event context, represented by events related to the loss of significant others, health problems, domestic violence, addiction, existential problems, is a factor in numerous unsuccessful attempts at the IVF procedure. The event context presented by the favorable experience of relationships with significant others is a factor in the success of the IVF procedure.

2. Experiencing the situation of success/failure during the passing an IVF procedure of women is a factor in the impairment of reproductive function and consists of such components as meaning, emotional, cognitive and temporal ones. The semantic component of the experience, characterized by low meaningfulness of life, assessment of life as unproductive, a tendency to analyze negative past experience, and lack of planning goals and plans for the future, determines the success of the IVF procedure. The emotional component is characterized by the presence of a high level of anxiety in both groups. The high rate of anxiety in the group of women who have successfully passed the IVF procedure is associated with the fear of the course and outcome of pregnancy and childbirth. In the group of women whose in vitro fertilization procedure did not give a positive result, a high anxiety rate is associated with the IVF procedure itself, fear of subsequent unsuccessful attempts. The cognitive component is characterized by a low level of satisfaction with marriage, which can be a consequence of the absence of a child in the family, as well as one of the stressful causes causing repeated unsuccessful attempts to complete an in vitro fertilization procedure. The temporal component of the experience, represented by the low emotional charge of the present stage of the life path, the lack of future prospects,

orientation to the negative past, the narrowed perspective of the future, is a factor in the success of the IVF procedure.

3. The structure of social roles serves as a personal determinant of the success/failure of the IVF procedure. The hierarchy of social roles, represented by family and parental roles, determines the success of the IVF procedure, and is characterized by a focus on the processes and events occurring in one's own family. The structure of the social role hierarchy, represented by professional roles, determines the non-success of the IVF procedure.

4. Parameters of the personal maturity act as factors of failure in passing an IVF procedure and are represented by a low level of reflexivity, an external locus of control and a low level of egocentrism. The personal determinants affecting the success of the IVF procedure are the average level of reflexivity, the internal locus of control and the average level of egocentrism.

5. Readiness for motherhood acts as a personal determinant that influence the success/failure of the IVF procedure. The unformed and conflicting type of readiness for motherhood is a maladaptation factor and leads to the failure of the IVF procedure. A favorable attitude towards motherhood, represented by an adequate type of readiness, acts as a factor in the success of the IVF procedure.

6. On the basis of the conducted research, a program of psychological support for women in the situation of in vitro fertilization procedures, aimed at enhancing the adaptation mechanisms leading to the restoration of the reproductive sphere of women, has been developed.

There is no conflict of interest.

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