Using CBT for Depression: A Case Study of a Patient with Depressive Disorder Due to a Medical Condition (Infertility)

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Abstract

Introduction: Infertility increases the risk for psychopathology more often in women, who can develop symptoms in mood disorders and chronic stress. Depression is one frequent psychological consequence of this medical condition and if it's not being addressed accordingly, depressive symptoms can lead to delays in the onset of medical treatment, impairments in its outcomes and, likewise, poses a risk on the patient's mental health.

Purpose: The purpose of this case study was to disseminate a specific example of how infertility affects mental health, offering a multidisciplinary approach from both traditional CBT and health psychology. In addition to this, the case study presents important cultural aspects regarding psychotherapeutic process and access to health care.

Methodology: This is a descriptive and explanatory case study where multiple quantitative data sources have been used such as self-reported inventories: The Fertility Problem Inventory (FPI), Beck Depression Inventory (BDI) and The Coping Inventory for Stressful Situations (CISS), in addition to a semi-structured clinical interview.

Results: Results showed an improvement in mood, acquisition of a more adaptive thinking style, healthy coping mechanisms and self-help strategies to support the patient post-therapy. The contribution of cultural orientation and wellbeing-centered recommendations are being discussed.

Conclusion: The improvement of healthcare services relies on such presentations of case studies that can shift the focus in new directions of good clinical practices.

Keywords

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Introduction

Theoretical background

Infertility represents "the failure to establish a clinical pregnancy after 12 months of regular, unprotected sex or an impairment of a person's ability to reproduce either as an individual or with a partner." (Zegers-Hochschild, et al., 2017, p. 1795) and affects about 8-12% of couples of reproductive age globally. Infertility has been described as a disease of the reproductive system, which can lead to disability by impairing reproductive function. Thus, according to the International Classification of Functioning, Disability and Health, it is coded b660, with impaired procreation function (functions associated with fertility, pregnancy, birth and lactation) - b6600 functions related to fertility with impairments such as subfertility and sterility (World Health Organization, 2001). The terms infertility/subfertility are used interchangeably. Infertility is experienced as a crisis situation, being a major stressor in the life of the individual / couple and leading to psychological distress. Often, patients with infertility are at increased risk for psychopathology, most often developing symptoms in the area of anxiety, depression and chronic stress. Women tend to be much more psycho-emotionally affected by this medical condition than men (Maroufizadeh, Navid, Omani-Samani, & Amini, 2019). The main reasons for this are related to the stigma associated with women who cannot have children, especially in cultures that value this aspect as a primary purpose in life and the defining role of a woman. Thus, women with infertility are socially isolated, neglected, more prone to divorce and experience a drastic decrease in self-esteem and self-worth, which can lead to feelings of guilt and lack of meaning in life. Depression can occur as a consequence of infertility affecting the normal functioning of the person and the quality of the couple's relationship (Vioreanu, 2021).

Currently available epidemiological data indicate that depression affects between 39.5% - 42.9% of women with infertility in Nigeria (Awoyinka & Ohaeri, 2014), with even higher rates in Saudi Arabia (53.8%) (Al-Homaidan, 2011) and Ghana (62%) (Alhassan, Ziblim, & Muntaka, 2014). These areas tend to be more affected due to various factors related to cultural beliefs, cultural practices and customs, socio-economic level and access to quality medical services.

However, screening for depression in women diagnosed with infertility should be an implicit method of investigation, as it has been shown that depressive symptoms delay the onset of medical treatment, affect its outcomes and pose a risk to the patient's mental health (Oladeji & OlaOlorun, 2018).

There is a strong and growing body of research on effective psychotherapeutic interventions in the treatment of depression. A recent and comprehensive meta-analysis (Cuijpers, et al., 2021) examined the effects of several types of psychotherapy on depression, starting with the well-known cognitive-behavioral therapy (CBT) and including individual psychotherapy (IPT), behavioral activation therapy (BAT), problem solving therapy (PST), third wave therapies (3WT), life review therapy (LRT). The results indicate similar effects between these types of therapies, all of which have a considerable efficacy rate. This facilitates patient-centered health care, favoring the patient's preferences for a particular type of psychotherapy. When the patient's preferences and opinions are valued, it is likely that the chosen intervention will fit better with him, and therefore the objectives will be achieved more accurately. This should be controlled through access to up-to-date evidence-based information about treatment options, expected effects, possible risks, and realistic management of expectations regarding the therapeutic process. Moreover, the authors of this study highlight an essential aspect, namely that of maintaining the positive effects of certain psychotherapies, at one year of follow-up. These include CBT, BAT, PST and IPT. Other studies reinforce the efficiency of CBT in lowering anxiety and depression symptomatology in infertile patients. This may happen due to the various range of strategies and techniques that CBT provide for the patients in order for them to restructure irrational thought patterns and acquire healthier and more adaptable beliefs regarding certain adverse life events (e.g. infertility). It has been suggested that prolonged application of CBT in infertile patients results in significant reducing of infertility related stress, which can lead to successful pregnancy in some cases (Golshani et al., 2020; Wang et al., 2022).

CBT interventions are complex and target a wide range of symptoms exploring them cognitively, emotionally and behaviorally. Some of these interventions include behavioral activation, psychoeducation, homework, cognitive restructuring, problem solving and others. Traditional CBT is delivered face-to-face either in an individual or group format, but this type of psychotherapy expanded well in virtual formats too. For example, there are platforms or applications where individuals can learn self-help techniques and they can benefit from psychoeducational programs in terms of basic cognitive-behavioral therapy (López-López, et al., 2019). Moreover, CBT is a practical type of therapy helping the client to acquire life-long skills in order to use self-help in future situations and rely on own internal resources. Generally, CBT is a short-term therapy ranging from about five to twenty sessions.

Case Introduction

Patient E.C., aged 35, lives in Bucharest, Romania where she was born and raised. She graduated from the Faculty of Cybernetics, Statistics and Economic Informatics, working for 8 years as a Web Developer and E-Business specialist at a renowned company. She has been married for 6 years and currently has no children.

Recently, she presented to the therapist with an increase in depressive mood and a decrease in her existential drive. Four years ago, she was diagnosed with unspecified infertility (N97.9; ICD-10-AM) and underwent a series of unsuccessful medical treatments. Last year, she was diagnosed with a depressive disorder due to another medical condition (unspecified infertility) with a major depressive episode (F06.32; ICD-10-CM) and followed a treatment plan consisting of antidepressants and individual psychotherapy. She is currently experiencing a relapse as a result of voluntary discontinuation of both medication and therapy. The patient has no hereditary history of psychiatric disorders.

With respect to patient's psychosocial environment, E.C. lives with her husband for six years and she describes her relationship satisfaction as being very good until the time they started to attempt conceiving. After failed attempts and treatments, the couple's satisfaction dropped significantly (self-reported). She is employed, but recently started to miss work feeling impaired by depressive symptomatology.

Clinical picture

The patient comes with accusations of insomnia, says that she can't sleep and because of that she is absent from work, she has no appetite, she reports feelings of inner emptiness, she doesn't enjoy anything around her anymore, she feels helpless and over-blaming herself for her inability to have a baby. She believes that her husband will leave her at any moment, stating "It would be better for him to leave anyway because I can't offer him anything". She no longer keeps in touch with her friends: "I can't stand the thought that they can have a baby whenever they want, and I can't". She spends a lot of time in the house, locked in her room, trying to avoid contact with her husband by saying that she is ashamed to even look him in the eye. She states that she feels like „nothing in her life is worthy" and that she „will never be able to get over this failure". She has feelings of worthlessness for both her family and society, she has retreated inwardly, she is no longer interested in anything that is happening around her, not even the workplace where she used to make an effort and show commitment: „Even my work colleagues look at my differently, I think they feel sorry for me... that I struggle so much with the treatments and it still doesn't work… I don't even want to go to the office anymore, I can't concentrate on anything anyway".

Regarding the family and the husband, the patient claims that they never reproached her anything, that they supported her throughout the treatment and that the husband is the one who insisted that she go to therapy again. The patient states that no matter how difficult it is for her to leave the house, she does not want to lose her job and "to disappoint my husband even more". All these impairments last for more than two weeks and are experienced daily in relation to almost all activities. The patient has insight into the disorder and is willing to try treatment again.

In summary, the patient's clinical picture is as follows:
• Depressed mood
• Anhedonia
• Fatigue
• Decreased existential drive
• Insomnia
• Loss of appetite
• Decreased ability to concentrate
• Feelings of worthlessness, inadequate excessive guilt
• Social isolation.

All these symptoms cause a clinically significant deterioration in the areas of daily functioning (social, professional, family).

History

Patient E.C. was born and raised in Bucharest, being the only child of a family of doctors. She reports that the relationship with her parents was a good one, however quite cold and distant. Her parents longed for her to follow the path of medicine, and when E.C. decided that she wanted to choose another path, both her mother and her father tried to make her change her mind by removing any kind of support and making contradictory arguments. E.C. says she always felt pressured to be the best in her chosen field, to prove to her parents that she had made the right choice and to make them proud of her. She is currently in contact with both parents, but conversations and meetings are rare and austere.

Regarding the relationship with her husband, the patient states that this is the only authentic relationship in her life and that he has always supported her in all circumstances. E.C. has no close friends, the only social contacts being at work. She is not used to going on holiday too often because she is busy most of the time. She has been maintaining a leadership position for approximately 4 years, in which she invests many personal resources of time and energy. She considers the job to be her greatest achievement, wanting to add to the list the birth of a child. She considers herself a determined, active, ambitious person, with a desire to lead, emotionally inhibited, chooses to keep her feelings for her. She has no history of somatic or psychological disorders pre-infertility.

The patient's lifestyle was mostly characterized by the inconsistency of a stable schedule, with extra work hours, infrequent breaks, working under time pressure, maintaining a long vicious position on the chair, working at the computer, poor diet characterized by food rich in saturated fats and sugars, eating on the run, without setting a time for meals or sleep. Also, poor sleep hygiene followed by excessive caffeine consumption contributed to the maladaptive lifestyle, a marked maintaining factor for the patient's clinical picture.

The patient's internal resources and strengths consist of intelligence, ambition to succeed, conscientiousness, resilience to challenges and determination. She also declares herself a faithful and family-oriented person, being characterized by stability in life, both personally and professionally.

Purpose

The purpose of this case study was to disseminate a specific example of how infertility affects mental health, offering a multidisciplinary approach from both traditional CBT and health psychology. In addition to this, the case study presents important cultural aspects regarding psychotherapeutic process and access to health care. This case study serves as an academic shaped tool designated to illustrate, as clear as possible, a way of putting theoretical benchmarks into practice.

Methodology

Assessment

For the assessment part, EC completed three questionnaires: The Fertility Problem Inventory (FPI) (Newton et al., 1999) where she scored 160 which indicates moderate infertility-related stress, Beck Depression Inventory (BDI) (Beck et al., 1961) EC scored 31 which indicates severe depression and on The Coping Inventory for Stressful Situations (CISS) (Endler & Parker, 1990a) she obtained 38 on the emotional coping subscale indicating the coping style she uses frequently. The instruments have been translated in Romanian language by a team of specialists using reverse translation.

Case Conceptualization

The approach to this case will be based on cognitive-behavioral therapy, as its success rate in the treatment of depression has been proven (Thimm et al., 2014; Twomey et al., 2017; López-López et al., 2019). Therefore, the models of conceptualization of the case will be detached from the cognitive-behavioral area. According to Beck and Dozois (2008), in general, the depressed person has a negative image of himself, the world and the future (also called the

cognitive triad of depression). The content is negative because it is fueled by distortions in thinking, respectively by distorted automatic thoughts that exacerbate depressive symptoms. Cognitive intervention is therefore an essential step towards improving clinical manifestations.

One of the most used models in conceptualizing depression is the stress-vulnerability model, which is an etiopathogenetic model in the general conceptualization of a case in cognitive-behavioral therapy. Research indicates its effective use in explaining depression (Colodro-Conde, et al., 2018). According to the stress-vulnerability model, life events that come with a certain level of stress (in the case of the E.C. patient the diagnosis of infertility) interacts with the levels of biological or psychological vulnerability of the person (i.e. inability to achieve an important life goal such as having children) and can lead to the onset of psychopathology (depression). The clinical picture is subsequently described multidimensional in terms of emotional state, biological manifestations, dysfunctional behaviors and cognitions (automatic thoughts) (David, 2017).

In order for the intervention plan to be built as efficiently as possible and for the benefit of the client, it is important that after the clinical evaluation, a list of issues be drawn up to be addressed, each problem separately. For the case-specific clinical conceptualization in cognitive-behavioral therapy, the most used model indicated by the literature is the ABC cognitive model (Beck, 1976; Ellis, 1962). The basic assumption of this model is that it is not the life event itself that affects us, but the way we interpret it. The ABC model consists of the following elements:

• The activating event (A) - which can be an external situation (events in everyday life) or an internal situation (emotions, thoughts, behaviors);

• Beliefs (B) - the person's beliefs / cognitions in relation to the activating life event;

• Consequences (C) - the consequences of cognitive processing of the activating event that may manifest at the bio-physiological, emotional and / or behavioral level.

After the start of the therapeutic intervention, to these elements are added two more, learned and practiced in therapy, namely disputing (D), which involves the restructuring of dysfunctional cognitions, and the effective assimilation (E) of adaptive cognitions instead of maladaptive ones (David, 2017).

Therefore, in this case, the activating event is represented by the diagnosis of infertility (A), and the consequences consist in altering the emotional state (C) (depressive symptoms), with response to the physical one (fatigue, social isolation). Beliefs (B) are found in the way in which patient E.C. interpreted the situation, that is through dysfunctional thoughts:

• Global evaluation: "It would be better to leave anyway because I can't offer him anything" - the tendency to evaluate in global terms, starting only from a few isolated behaviors or situations;

• Intolerance of frustration: "I can't stand the thought that they can have a baby whenever they want and I can't" - E.C. considers it unacceptable that she cannot fulfill an important wish, which sets her apart from her friends; this triggered negative emotions and behaviors (C) such as loneliness and exclusion, absenteeism from work, avoidance of social contacts;

• Global assessment and catastrophizing "I feel that nothing in my life is worth it, I will never be able to get over this failure" - maximizing the importance of an event with an emphasis on its negative side; these distortions have led to hopelessness, lack of self-worth and diminished meaning in life;

• Arbitrary inference: "Even my work colleagues look at me differently, I think they feel sorry for me... that I struggle so much with the treatments and it still doesn't work… I don't even want to go to the office anymore, I can't concentrate on anything anyway"- leading to concentration hypoprosexia, slowness in expressing ideas and feelings of alienation generated by self-perceived differentiation between oneself and others;

• Overgeneralization and rigid thinking, in absolutist terms: "I struggled for so many years with IVF treatment and it didn't work, why would this (psychotherapy) work? It's a waste of time, only a child could save me. "- E.C. tends to draw a generally valid conclusion based on a single event, which leads to a loss of confidence and positive expectations; E.C. categorizes the experience of having a child as an essential condition for her psychological well-being and meaning in life, failing to consider other possibilities and, therefore, adopting a rigid thinking style that prevents her from adapting to the situation.

With that being said, the way in which the patient perceived the triggering event and the thoughts that she attributed to it were the reason why the depressive symptoms were installed and maintained.

In order to keep a holistic presentation of this case, a clinical classification was also made. This classification may help clinicians analyze the case on multiple levels, hence outlining and improving the intervention plan centered on the patient's psychological needs.

According to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), depressive disorder due to another medical condition has five diagnostic criteria, as follows:

A. A prominent and persistent period of depressed mood or pleasure / interest significantly diminished for all or almost all activities;

B. There is evidence from history, physical examination or laboratory findings that the disorder is a direct pathophysiological consequence of another medical condition;

C. The disorder is not better explained by another mental disorder (e.g. adjustment disorder, in which the stressor is a serious medical condition);

D. The disturbance does not occur exclusively during a delirium;

E. The disorder causes clinically significant distress or impairment in social, professional, or other important areas of functioning (American Psychiatric Association, 2013).

Patient E.C. meets all the diagnostic criteria listed above.

The diagnostic code of the International Classification of Diseases, tenth edition with clinical modifications (ICD-10-CM) is F06.32 - mood disorder due to a known physiological condition, with major depressive episodes (World Health Organization , 2002).

The classification in the International Classification of Functioning, Disability and Health (ICF) refers to the areas of functionality affected by somatic pathology and psychopathology. Patient E.C. has the following moderate and severe impairments:

• b130 - energy and impulse functions: b1300 energy level (severe impairment); b1301 motivation (severe impairment); b1302 appetite (severe impairment);

• b134 - sleep functions: b1342 sleep maintenance (moderate impairment) and b1343 sleep quality (severe impairment);

• b140 - attention functions: b1400 sustaining attention (moderate impairment);

• b152 - emotional functions: b1521 emotion regulation (severe impairment); b1522 range of emotion (severe impairment);

• b160 - thinking functions: b1600 pace of thought (moderate impairment);

• b660 - procreation functions: b6600 fertility-related functions (severe impairment) (World Health Organization, 2001).

Results

Table 1. Inventories scores pre and post intervention.

INSTRUMENT	INITIAL ASSESSMENT	POST-TREATMENT ASSESSMENT
FPI	160	100
BDI	31	19
CISS	38 (emotional coping subscale)	34 (task-oriented coping subscale)

Sessions of treatment

The intervention for patient E.C. was multimodal, starting with individual psychotherapy based on cognitive-behavioral therapy initially with a standard 12-session plan, antidepressive medication (the patient resumed imipramine) and additional couple counseling offered by IVF clinic. This aspect could represent an important aid in the outcomes of treatment. The main objectives of this case study are:

• Drawing up the list of problems and addressing the main emotional issues;

• Normalizing diagnoses (both infertility and depression) and consolidating hope;

• Strengthening self-esteem and psychological flexibility by disputing distorted thoughts;

• Encouraging social reintegration and looking for alternatives;

• Developing and implementing a balanced lifestyle.

Sessions 1-4

The focus in these sessions was on psycho-education about psychological disorder (depression) and somatic condition (infertility) noting essential aspects such as risk factors, maintaining and protective factors, the maladaptive effect of negative and distorted cognitions on mood and, also, goal setting. The main objective for this module was to explore the cognitive and affective valences of the patient, together with the collection of essential data from the life history (personal, professional, medical). The assessment tools were administered and the list of problems was made. The patient was presented with the advantages and disadvantages of the therapeutic process, the possible obstacles she may encounter, the manner in which it is carried out, the expected results and what will happen at the end of psychotherapy. She also found out the benefits of and how therapeutic counseling can enhance the course of medical treatment for infertility. In addition, she learned how to set goals for herself and how homework can facilitate this process. By the end of third sessions, EC was able to: use self-monitoring tools such as Dysfunctional Thought Record (DTR) to assess her thoughts, add her own tasks for homework and summarize the therapy session.

Sessions 5-8

In this module, the objectives were set around the disputation of negative thought patterns and finding alternatives for them, with the aim of increasing the frequency of positive thoughts. The main techniques used were cognitive restructuring - empirically/pragmatically/ logically disputing central distorted cognitions and automatic thoughts, positive reinforcement techniques and behavioral activation for re-engaging the patient in daily activities, relaxation techniques to reduce insomnia, problem-solving techniques and assertive training to improve social skills, to strengthen self-esteem and to develop healthy coping. During the week, one of the homework EC had to do was to monitor her mood and thoughts daily and discuss this at the beginning of each session, keeping a daily record of the positive and negative thoughts she was experiencing, identifying and addressing persistent dysfunctional cognitions. In addition to this, she also started journaling.

The stress inoculation training procedure (SIT) has been used to manage the acute level of stress related to infertility. This technique is useful in cases where the activating event is imminent and cannot be changed for various reasons (such as in crisis situations). The training is based on a series of techniques aimed at forming adaptive and effective coping strategies, and the techniques used here are problem solving and assertive training, cognitive restructuring, behavior modification techniques (e.g. successive approximations) and relaxation techniques and meditation (e.g. mindfulness) (David, 2017). Taking into account that one of the patient's strong beliefs is religion, spiritual techniques such as prayers have also been inserted.

Also of great importance to patient E.C. is to strengthen her resilience. She is about to face other stressful life events with the resumption of infertility treatment. The treatment itself is a source of stress through its procedures, the uncertainty of a favorable outcome, the possibility of failure, the long waiting time and the associated financial costs

(Maroufizadeh, et al., 2018). Therefore, the patient must be prepared to face the challenges that will follow and also to be able to look for and consider alternative strategies (other possibilities such as adoption, acceptance of a life without a child, etc.). Some of the techniques that have been considered here are finding and highlighting strengths, internal resources, transforming them into general action strategies, metaphorical techniques and role play for practicing the application of strengths, decision-making techniques and process focus, to the detriment of the result. By the end of this module, EC managed to make the transition from identifying and evaluating automatic thoughts to fundamental beliefs, to acquire new restructured thoughts and beliefs and to actually believe them and to set a different routine in her daily life in order to achieve her therapy goals.

Sessions 9-12

The latter module focused on interpersonal relationships and the growth of time spent doing enjoyable activities, time management and goal setting to improve mood. The role-playing technique was used here, and as homework, in addition to the self-monitoring sheets, the patient had to complete tasks focused on daily journaling about activities that she enjoys, weekly planning of what to do and setting clear goals along with steps to achieve them. The patient was taught self-help techniques to apply whenever she needed, such as self-monitoring, self-assessment, and self-management of reinforcements (by preparing the environment to reinforce desirable behavior). Further, the therapist together with the patient worked on therapy closure, progress has been recorded and the patient received validation from the therapist for this. She also received counseling to prevent relapses. The most important aspect here is for the patient to be able to recognize for herself when she needs specialist help, if the symptoms are getting worse, and to act accordingly. After completing the individual psychotherapy, the patient, together with her husband, benefited

from a couple psychological counseling program for infertility problems at the clinic that offers medical treatment.

At the end of this module, EC received again the instruments that she completed in the beginning of therapy (FPI, BDI and CISS) and the after scores supported the progress observed during sessions: FPI - 100 indicating a decrease in infertility-stress level, BDI - 19 mild to moderate depression, CISS - 34 for task-oriented coping strategy, suggesting a switch from using emotional coping strategy. She also began to individually integrate mindfulness exercises into everyday life along with other relaxation techniques such as progressive relaxation and diaphragmatic breathing. EC reported that the skills learned in therapy mostly helped her shape new perspectives in thinking about her medical condition stating that: „Even if IVF treatment won't be successful, that doesn't mean it's the end; I have other possibilities so now I am willing to consider them." She also mentioned that the improvement she was most proud about was the reduction of negative self-talk and returning to work being able to focus on tasks

Discussion

Obstacles in the course of treatment
Even if EC recorded considerable progress during therapy sessions, some complicating factors were present, thus it's important to examine their origins in order to try and overcome them. The therapist decided to extend the psychological analysis on an integrated human-environmental-physiological model for the purpose of observing how a patient's individual characteristics may act as obstacles in the face of therapy objectives.

First, the most relevant literature models for analysis will be selected. By extracting essential information from the patient's personal and professional history, one can note the environments that influence her health. For example, in order to be able to determine which environmental aspects of work are relevant to the patient's health, which may be predisposing / maintaining

factors, it is necessary to refer to models of work psychology.

One such model, which summarizes the necessary information and captures the relationships between internal and external factors is the SWOT analysis (strengths / weaknesses / opportunities / threats). While external analysis focuses on environmental opportunities and threats, internal analysis helps to identify strengths and weaknesses. At the same time, it helps to understand which of one's own resources and capabilities are rather sources of competitive advantage and which are less likely to be sources of such advantages (Gurel & Tat, 2017). In this case, the following can be noted:

• Strengths: ambition, conscientiousness, taking responsibility, leadership skills;
• Weaknesses: hyperactivity, overwork, inhibition, repression of vulnerabilities, negative emotionality;
• Opportunities: leadership positions;
• Threats: stressful working conditions, leadership responsibilities - making decisions for teams of people (marked stressor), health problems (infertility).

Furthermore, it is important to analyze the patient's personality profile, noting the key features that could contribute to maintaining the psychological symptoms. Personality traits contribute to changes in psychological well-being when they interact with stressors. Thus, according to Freiburg's conceptualization model, personality can be divided into 12 dimensions, which when analyzed in context, can provide a better understanding of the person's preferential, attitudinal, and behavioral characteristics (Fahrenberg, Hampel, & Selg, 2010).). Most relevant to patient E.C are:

• Life satisfaction - people with low scores for this trait have a negative view of life events, have low self-efficacy, tend to ruminate, and in unfavorable conditions easily switch to depressive mood;
• Achievement orientation - people with high scores in this trait are characterized by activism, dominance, competitive behavior and tend to devote more time to the profession than to leisure activities (interests, passions);

• Inhibitedness - this dimension refers to hesitant, withdrawn behavior with low desire for verbalization. People with high scores feel socially inhibited, make friends hard, avoid expressing feelings, and tend to stay away from social gatherings;
• Strain - on this dimension we find stress, tension, exhaustion, feelings of overwork, responsibility and time pressure;
• Emotionality - people with high scores on this factor often face internal conflicts, are irritable and feel asthenic or indifferent. They have frequent mood swings, but are most often characterized by depression or anxiety. There is a risk of psychosomatic exacerbations (Biehl et al., 2020).

Therefore, these traits may explain the increased predisposition to both psychological and somatic vulnerabilities (i.e. unspecified infertility). A system is dysregulated if it has certain vulnerabilities that have accumulated, so personality traits are here predisposing and precipitating factors to psychopathology. Moreover, these traits can affect the course of therapy (e.g. EC faced some issues with keeping her journaling routine and doing her homework, that can be partially explained by her strain and emotionality traits).

In addition to this, an important influence in the patient's psychopathology is found in the meaning that she attributes to the significant life event she is going through. Most often, when a person is faced with an unforeseen and imminent situation (with a negative valence), she/he tends to wonder why this happened to him/her. If the person's specific attribution pattern consists of stable beliefs over time, then the person will tend to extend their long-term helplessness. It should be noted that these patterns of helplessness have been formed over time through learned beliefs about helplessness (e.g. "whatever I do will not change anything"). If the pattern of attribution is rather global, the person will tend to extend their helplessness to more than one life situation or context. If the attributions are internal, then the person will feel excessively guilty and his/her self-esteem will be considerably affected (Peterson, Maier, & Seligman, 1993).

This is called the learned helplessness model and was reformulated by Abramson,

Seligman, and Teasdale (1978) as a cognitive model of depression. In other words, patient E.C. presents an attributive style focused on global assessments ("I feel like nothing in my life is worth it, I will never be able to get over this failure") and excessive self-blame, which goes beyond the situation ("I can't stand the thought that they can have a child whenever they want and I can't") generating feelings of worthlessness and helplessness. In other words, depression results from the patient's tendency to attribute his or her own failure to stable internal qualities (e.g. self-efficacy, personal skills) and not to internal or external situational factors (e.g. biological limitations, lack of treatment compliance). The therapist reported here a difficulty in assessing the patient's mood flow across sessions as she didn't show consistency in completing self-monitoring worksheets. The main reason for this inconsistency was that EC did not seem to understand the way these exercises can help her, arguing that her mood is always the same and nothing can help her change it. The therapist worked together with the patient on these self-monitoring worksheets during some therapy sessions, helping her complete them and then challenging the thoughts that she experienced during and after completion. Using past experience as proof that some strategies can actually improve her mood (for example, when she is sharing her thoughts and concerns with her husband who is showing her understanding and support), EC was able to recognize her tendency towards feelings of helplessness and minimization of positive aspects. As a result, she was willing to try again with self-monitoring, this time putting in a good effort.

Access and Barriers to Care
Combining the medical treatment for infertility with psychotherapy can lead to an emphasis on the financial strain. Besides the fact that medical treatment is expensive and long lasting, the access to it depends heavily on the socio-economic status of the person and also of the country she lives in. A barrier for EC consisted of low access to infertility-related clinics, as she lives in Romania, a non-western, still developing country, that doesn't offer so many opportunities in the healthcare industry. She found a suitable clinic in another city, now having to bear the transportation costs as well. This aspect can contribute to a time conflict between medical treatment and psychotherapy. As a result, some therapy sessions were held online, the therapist offering this possibility in order for EC to complete her medical appointments which overlapped with therapy.

Another possible barrier to care can be the absence of psychological counseling services in IVF clinics. It has been shown that psychological support for both individual and couple levels offered simultaneously with medical treatment in IVF clinics improves treatment success rates and overall mental health of the patient by reducing depressive symptoms, anxiety and stress levels (Vioreanu, 2021). Some patients do not afford to pay for extra therapeutic services, thus they may struggle with finding help. Fortunately enough, EC managed to maintain both types of treatment, plus a couple counseling module offered by the clinic.

End of therapy sessions and follow-up
CBT intervention has led to a reduction in depressive symptoms as well as a change in dysfunctional attitudes and cognitions. She returned to work, began a reconciliation process, and resumed infertility treatment. Twelve individual psychotherapy sessions were required for partial remission of symptoms and antidepressant (tricyclic) medication, and in the months following treatment, the patient continued to report improvements in depressive symptoms as well as dysfunctional attitudes and self-image (consolidation of progress over time is also accentuated by the couple's psychological counseling). The patient understood how negative thoughts are a barrier that prevents her from enjoying pleasant things and social activities. She internalized her skills learned during therapy sessions (techniques for stopping negative thoughts to avoid rumination). At the same time, she and her husband were able to consider other options in case of failure of infertility treatment, making the decision to adopt a child. To keep a better track of the treatment outcomes, apart from the measures taken at the beginning and

the end of therapy, EC also completed a feedback sheet at the end of each session. She self-reported how she felt during the therapy session, if the therapeutic relationship was optimal, she reflected on what she learned and how well she thinks she can apply the techniques further, in everyday life. The therapeutic relationship followed a consistent pattern where the patient maintained her wellbeing.

To ensure the stability of the balance even further, after psychotherapy, the following was recommended:

• Building a healthy lifestyle, based on exposure to wellbeing factors that lead to the patient's well-being: significant people, spending time in nature, engaging in activities that will please the patient and help health in general (sports, travel, music, eliminating monotony), reducing exposure to stressors / psychotoxic factors (such as reducing overwork); the goal is to spend as much time as possible in well-being;

• Creating a regular sleep schedule (sleep disturbance can maintain mood swings): by controlling the stimulus, relaxation techniques;

• Maintaining the adaptive effort, in order to mobilize energy and the existential drive (through self-challenges, experimenting with new, positive things, ensuring a living environment with various conditions).

The follow-up session scheduled three months after completion of therapy confirmed the lasting effects of improvement over mood and thinking patterns. The patient followed most of the therapist's recommendations and she was able to reach an important decision regarding a possible negative result of the medical treatment (i.e. adopting a child). Her scores on BDI and FPI remained low and showed a slight but, important, increase on CISS task-oriented coping subscale score. The patient requested to continue visiting the therapist, remaining under psychological surveillance with a session once every three months.

Implications of the case

This case study shows that infertility has extensive effects on the bio-psycho-social level, depression being the most common psychological consequence, especially among women. An effective intervention plan will address all aspects of the patient's life, analyzing key variables from the bio-physiological, environmental and psycho-social level. In this case, too, the environment in which the person lives, the factors of psychological well-being, lifestyle and social support were evaluated. The perspective of approaching this case adds value by combining classical CBT with elements of health psychology and counseling.

The psychotherapeutic intervention itself was the main element in the management of the clinical picture, but the patient benefited from more than that, learning self-help strategies and techniques that would strengthen her long-term progress. Relying on her inner resources such as conscientiousness and determination (which helped her with homework and the integration of skills learned in therapy), faith and family spirit (through which she solidified her resilience by managing the challenges that followed) the patient managed to break the vicious circle of negative cognitions and bring back positive cognitions accompanied by adaptive behaviors. To all this is added the importance of support from her husband and friends.

The effect of social support on psychological well-being and, implicitly, on the reduction of depressive symptoms is well documented. A model in the literature that explains these associations is the model of social causality (Kaniasty & Norris, 2008) according to which social support is even a precedent for psychological well-being, its lack leading to distress. Based on the relationship between social support and stress, the model argues that the presence of an active support network significantly reduces the risk of depression because it helps boost self-esteem and decreases engagement in dysfunctional cognitions (Zhen et al., 2018; Ren et al., 2018). Therefore, the fact that the patient benefited from social support from her family was an important aid in managing depressive symptoms.

The outcomes of this case study are in line with past research. For example, a recent meta-analysis suggested that CBT techniques led to a significant reduction of depression

rates in infertile women and to a successful replacement of dysfunctional behaviors with more adaptive ones (Abdollahpour et al., 2021). Case studies across literature which focused on delivering CBT to infertile patients, even if scarce, suggested that modification of cognitive distortions and faulty core beliefs due to CBT techniques indicated considerable improvements in interpersonal life of the patient (Choudhary et al., 2019). Considering the fact that current guidelines recommend treating severe depression with pharmacotherapy and that research shows that the most efficient way of treating severe depression is through a mix of CBT and ADM (antidepressive medication), this can also explain the favorable outcome in EC case (Vasile, 2020; Nakagawa et al., 2017).

Another important clinical implication that derives from this case is the utility of screening for depression in IVF clinics. Infertility patients should be screened for depression, stress and anxiety before starting any medical treatment in order to assure positive outcomes. That is because psychological wellbeing plays an essential part in treatment compliance and, so, CBT is recommended to those patients who show an altering psychological state.

As a custom note, this case has important implications for Romanian culture and intercultural research. Firstly, because there is a significant paucity of studies contextualized on Romanian society, where psychology was negatively impacted by its outlawing during the communist regime. Consequently, research in this field is quite limited, also due to the lack of validated psychological tools. One way to move things forward is the translation and validation of questionnaires and tests on the Romanian population, aspect that has been remedied in recent years (Ispas et al., 2014).

Secondly, this case study adds on the perspective of how different populations may respond in the face of a similar challenge, if compared with other case studies of infertile patients from different cultural backgrounds. For example, EC's reaction in the face of infertility diagnosis (i.e. negative, distorted thoughts such as catastrophizing, all-or-

nothing thinking) might be partially explained by her cultural-framed tendencies of valuing cohesion, obligation and familism. These values are characteristic to a collectivist culture (Burholt et al., 2017), thus supporting her emphasis on the importance of having children and social comparison (e.g. „I can't stand the thought that they [friends and workmates] can have a child whenever they want and I can't"). If EC would have been raised in a different culture, an individualistic one, values and cultural norms could have shaped a different thinking pattern, therefore, she could have had a different outcome

Limitations and Strengths of the Study

Limitations of the Study

Some limitations can be acknowledge here. For instance, any case study is subject to researchers' own subjective feeling which has been created throughout therapy sessions and therapeutic relationship and it may influence the way the case study is presented. Another example is that case studies as such are difficult to replicate due to specific, individual and cultural characteristics. A third limitation may be connected to the difficulty in generalization of results to the wider population, considering the personal note of the case and cultural shaped influences. This means that the conclusions drawn from this case study may not be transferable to other settings

Future directions

This case study highlights the importance of psychotherapy for infertility patients and indicates that traditional CBT has a positive outcome on managing depression. Sure enough, we must not overlook the fact that this patient followed a mixed treatment plan, combining CBT with ADM and couple psychological counseling, contributing to overall improvement. Changes in thought patterns (e.g. controlling negative thoughts and quitting overgeneralization), behavior modification by adopting adaptive patterns (e.g. returning to work and keeping a healthy sleep schedule) are skills learned through

CBT strategies and techniques that set the patient on the right track to recovery.

For this case study, an analysis concerning the impact of CBT and the impact of medication was not performed. It would have been useful to see under what percentage did the therapy help alone, compared to medication. Future works can add this dimension into their assessment. Clinicians are encouraged to use the screening of infertility patients for depression, but also for anxiety and stress, as these are the most documented psychopathological consequences of infertility (Galst, 2017). To assure a good practice, the psychological interventions should be applied at the beginning, during and at the end of IVF treatment, as it has been shown that infertility treatment can worsen the psychological state of the patients (cost, duration and uncertainty of success rate) (Chu et al., 2017).

It would also be useful to look into mixed CBT techniques and if their impact on depressive mood can be more conclusive. Because this case study only focused on traditional CBT strategies, future research could mix ACT with CBT in order to control for any added value this might have.

Ultimately, clinicians and students could investigate infertility patients with different backgrounds such as other cultural origins. This case focused on a patient born and raised in a non-western, collectivistic country that is considerably distinct in cultural orientation compared to western countries. Some cultural aspects such as rules of society, the characteristic way of adapting, the meaning and significance of life, traditions and beliefs contribute to the way of evaluating and responding in a certain life situation (for example, coping with infertility).

To illustrate this, one study that focused on establishing personality typologies in a specific culture found that, in Romanian culture, there are five types that can be identified: the sub-controlled type (with insufficient impulse control), the overcontrolled type (with excessive impulse control), the resilient type, the passive type, and the tense type that is most prone to irrational cognitions and maladaptive thought patterns that could lead to psychopathology

(Sava et al., 2011). Therefore, emic personality traits predispose an individual to different outcomes in the face of an important life event, changing the prognosis of a disorder.

Conclusions

To ensure the stability of the balance even further, after psychotherapy, it is recommended to maintain an adaptive effort, in order to mobilize energy and the existential drive (through self-challenges, experimenting with new, positive things, ensuring a living environment with various conditions).

Concluding, the improvement of healthcare services relies on such presentations of case studies that can shift the focus in new directions of good clinical practices.

Conflict of interest

The author declares that she has no conflicts of interest.

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