

Paternal perinatal depression: cases

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Summary

For many years there has been a debate among psychiatrists as to whether and how the patient's gender modifies the psychopathological picture of depression. Despite many years of research on trigger mechanisms, clinical features and the consequences of perinatal depression in women, one can still get the impression that too little is known about this mental disorder in the perinatal period in women. As for men, there are only few reports showing the consequences of paternal depression for the physical and emotional development of a newborn child. The article describes several cases of male patients who struggled with symptoms of depression in the perinatal period of their partners. In all stories, one can find a cause-and-effect relationship between the episode of depression and the perinatal period. In spite of similar life circumstances and traits characteristic of depression in men, many differences in the course of the illness were also observed. Each of the patients required pharmacological treatment. Depending on the clinical and life situation, parallel psychotherapy was recommended, and in one case 24-hour hospitalization. In one of the men, an important trigger factor was the episode of postpartum depression in the partner. In the depressive state, all three men had to temporarily give up their care role in relation to their partner and then the child. Applied comprehensive treatment in all three fathers brought symptomatic and functional remission. Good mental health translated into a good adaptation to care for a little child and satisfaction as a father. The article presents perinatal depression in fathers as a real clinical problem that requires further in-depth research.

Key words: depression, perinatal period, father

Introduction

In the area of research on affective disorders, much attention is paid to the differences between depression occurring in women and men, their biological and socio-cultural conditions. Discussion about the dissimilarity of the image and the impact of gender on treatment is still ongoing. It is known that perinatal depression in mothers can result in serious consequences for the health of the woman, the child and the functioning of the entire family system [1]. However, depression associated with the

birth of a child can also affect the father. Thus far, relatively few reports on this subject have been published. Nonetheless, it is emphasized in these reports that depression in fathers may bring about or intensify difficulties in partner relations, disturb the proper bond and development of a child and cause behavioral disorders at an early stage of the child's life [1-3].

Epidemiology

About 10% of fathers experience symptoms that meet the criteria for depressive episodes of varying severity in the period from the first trimester of pregnancy of the partner to one year after the birth of the child (vs. 24% of mothers) [3]. The incidence of depression in fathers in the postpartum period is estimated at 1.2-25.5% [4]. In women after childbirth, depression is usually revealed in the first 3 months, while fathers experience it 3-6 months after the birth of the child [5]. Severe depression of the child's mother increases the risk of this disorder in the father by 50% [6]. Similarly, the history of familial depression in both parents of the male has a strong influence on the occurrence of depression [7]. It may be accompanied by anxiety disorders. Before birth, 4-16% of men experience it and after birth, 2.5-18% [8].

Neurobiological basis of parental attitudes

In men, similarly as in women, the formation of paternal attitudes is based on hormonal changes, modifications of the activity of particular brain areas and the phenomenon of neuroplasticity. The key role, like in women, is played by oxytocin, a hormone responsible for creating interpersonal relationships [5]. Studies on a small group of parental pairs showed that oxytocin concentration does not differ in mothers and fathers; however, it most likely acts differently depending on the sex of the parent [9]. Steroid hormones in a man also play an important role in the process of becoming a father. During the stage of reproductive behavior, the testosterone level increases, and after the birth of the child it decreases [5, 10]. The brain structures involved in shaping parental behaviors and emotions are the hypothalamus, midbrain, cerebral cortex, as well as the limbic and paralimbic systems [5]. The baby provides new stimuli that modify the functioning of neuronal pathways in parents and affect their behavior and emotions. In this way, the basic needs of the child are secured, and in the context of the role of the man, a sense of fatherhood appears. Studies of parents' reactions to stimuli from the infant showed that in mothers, the "emotional" brain functions, and in fathers, the "socio-cognitive". The female/maternal brain is associated with greater activity of the amygdala (on the right side). In contrast, the male/paternal brain is expressed by greater activity of the medial prefrontal cortex (on the left side). The description of the other neurobiological aspects of fatherhood goes beyond the scope of this study [5, 11].

Probable mechanisms causing perinatal depression in fathers

The physiological adaptation to motherhood manifests itself in the form of reducing the level of anxiety and stress response, and enhancing protective behaviors in relation to the newborn. In the course of caring for a child, in the cortico-limbic system of some women, stress and dynamic hormonal changes are imposed on the increased reactivity in areas related to emotions [5, 12]. It has been proven that in postnatal depression, there is a disturbance in the functioning of the network (“salience network”) responsible for recognizing anxiety-provoking stimuli and important signals from the child. The results of studies on depression indicate an increase in the level of anxiety and a decrease in the reactivity of the cortico-limbic system to signals related to the newborn [7, 13]. So far, there still is a lack of correct methodological work on numerous father populations regarding structural and functional changes visible in neuroimaging studies.

On the other hand, the potential predictive factors available through clinical evaluation and laboratory research are easier to investigate. The source of stress for men is the third trimester of pregnancy of the partner, which may be associated with a decrease in the intensity of sexual intercourse [14]. Another probable factor is androgen deficiency. Men become vulnerable to depression not through childbirth experience (like women), but when they take on the role of a father, especially when it happens for the first time in their lives. Most probably, the strongest psychological factor is the discrepancy between the earlier idea of fatherhood and realities [4]. An interesting and requiring further in-depth analyses factor seems to be the already mentioned relationship of severe maternal depression that increases the risk of depression in the father by 50% – similar to the mutual influence of depression in the perinatal period. So far, the mechanism of this phenomenon has not been explained. Perhaps it is associated with the pairing of individuals who are susceptible to depression [6].

Other described risk factors in fathers include a history of depression, a difficult partner relationship, poor social support, unemployment, legal problems, unplanned partner pregnancy, immature personality traits and addiction [4, 15]. It is interesting to observe that only in fathers from families of origin with an overprotective pattern of upbringing the risk of depression is increased, and in mothers it is not [16]. The child’s mother’s attention after childbirth is directed at the newborn, which may elicit or exacerbate the feeling of rejection in the man (especially in the situation of dysfunctional dependence on the partner). With the first child, the role of the father requires a great ability to adapt to the care activities of the newborn, but the feeling of a lack of competence often dominates. This may result in the father’s withdrawal from this area [14]. Disruptions of the circadian rhythm are one of the predictors of depression, and the deprivation of parents’ sleep at an early stage after childbirth is a common experience. Nightly activities and care needs of the child may lead fathers to the deterioration of their productivity in paid work, which is usually not interrupted. Such a mechanism makes it difficult to adapt to the new role and raises further frustrations. The presence of depression in the father leads to disruption of the family system, whereby a small child and the mother caring for him cease to be the only people requiring support and care.

Clinical features of depression in fathers

Despite the fact that in the latest DSM-V classification the description of symptoms of postnatal depression is not different from other types of depression, it cannot be forgotten that in men, depression may appear differently than in women [17]. Studies on the diversity of the clinical picture of this disorder show that increased irritability, impulsivity, risky behaviors, the tendency to abuse substances (sometimes as part of autotherapy), social withdrawal, and decreased resistance to stress are more typical in men [18, 19]. Depression in the father may be improperly perceived by the immediate environment as a physiological change related to the family, social and economic diversity of this stage of a man's life. An additional factor hindering the determination of the correct diagnosis is the man downplaying his own mental state. This is most often due to the stereotypical social prohibition of displaying a weaker form or comparing their burdens to the burdens of a woman. Research results show, however, that after the birth of a child, men even more often than women experience such emotional states as helplessness, fear, frustration, concerns about the future, fear with a somatic component, exhaustion and irritability. Irritability can dominate or even replace sadness [4, 20].

Consequences of untreated depression in the father

Symptoms of depression affect the functioning of the person experiencing it. After giving birth, a woman usually resigns from her professional roles for some time, while a man still performs them continuously or with a relatively short break. Disturbances in cognitive functions (working memory, short-term memory and executive functions) in the course of depression in fathers generally contribute to a decrease in professional functioning [5]. Postnatal depression with features of withdrawal from the parental role of an infant's mother has a particularly adverse effect on its early development. However, the psychopathological picture of depression in fathers may have a particularly adverse effect on the child's development too. The most unfavorable features are irritability with bursts of anger, stiffness of affect, low self-esteem and substance use [16]. At the same time, the father-infant relationship is crucial for the child's development and for shaping the child's response to stress. It has been proven that the father's depressed mood causes the appearance of a phenomenon called a negative temperament in the infant. Depressed fathers (by narrowing the range of their emotions) have a worse quality of interaction and disrupted communication with the child. Less face-to-face play with the father during infancy impairs communication skills of the child, key for further development. Fathers in a depressive state use violence against members of their immediate family more often than healthy fathers and are less involved in the cognitive stimulation of the baby [5, 21].

The clinical experiences of diagnosing depression, treating it and maintaining improvement in three men will be described below. The patients are fathers whose episode of depression occurred in the perinatal period of their female partners. Despite similar life circumstances, each father had a different course of depression and required individual and comprehensive treatment.

Case I

A 35-year-old man presented himself to a psychiatrist at the turn of the second and third trimester of pregnancy of his wife (37 years of age). The married couple was already raising a 3-year-old son. The current pregnancy was unplanned, because the family was afraid of possible defects in the subsequent child related to the woman's age. In the first weeks of pregnancy, the older child had a quite urgent laryngological procedure. The parents were very distressed with this experience because the mother was unable to attend to the hospitalized child (due to pregnancy ailments). The housing conditions of the family were quite modest. When the couple learned about the pregnancy, the man began to intensively check his creditworthiness to buy a larger apartment. At this stage, the man experienced severe frustration. As a scientist, he still earned his living "from grant to grant", which made it difficult to provide the family with a larger apartment. At the same time, the wife had to give up running a company dealing with accounting services from the first weeks of pregnancy (as recommended by the doctor leading the high-risk pregnancy). The described man did not have any somatic diseases. In the family history, a severe stress of recent years was a serious oncological disease of his older brother, also a scientist (treated in foreign centers). Apart from the loads described above, the psychiatric examination did not reveal other risk factors for mental disorders. The premorbid personality did not show dysfunctional features, and the man had numerous and satisfying relationships within the immediate family and group of friends. He also managed to plan work in an effective way to actively participate in raising his son as often as possible.

Throughout the entire pregnancy, the man accompanied his wife in the comprehensive prenatal diagnosis, which ruled out the occurrence of fetal defects. Already in the first trimester, the patient began to experience intense anxiety symptoms with somatization (heart palpitations, sudden sweating, body tremors). These symptoms were accompanied by catastrophic expectations and a periodic sense of unreality. He did not want to burden his wife, so he did not confide in her. In the following weeks, the clinical picture of the disorder was accompanied by additional symptoms that significantly hindered his professional duties. This was the direct reason for reporting to a psychiatrist.

The examination showed that the following symptoms increased with time in the patient: impaired attention and memory, anhedonia, abulia, slow-flowing anxiety with periodic panic attacks with intense somatic sensations, a moderately depressed mood, dysphoria directed toward the son (with an accompanying great sense of guilt of the patient), disturbances in the first phase of sleep, loss of appetite (with significant weight loss), fleeting thoughts of giving up and a hypochondriac attitude (in relation to self). The man denied the presence of suicidal thoughts and psychotic symptoms. He had increasingly intrusive concerns regarding whether he would be able to accompany his wife during childbirth (with the unpleasant awareness that no one would replace him). He was also accompanied by a feeling of loneliness, due to the lack of support from his family of origin.

The results of laboratory tests, extended with urgent diagnostic imaging of the brain (in connection with the brother's oncological disease of the CNS) did not show any

abnormalities. A moderate depressive episode with severe anxiety symptoms with somatization was diagnosed. A psychoeducation session was conducted. In collaboration with the patient, it was agreed upon to include pharmacological treatment consisting of paroxetine at a dose of 20mg/d in the morning and trazodone 100mg/d taken before going to sleep. Tolerance in the first 4 weeks of pharmacotherapy was good. The man began to sleep through the nights and his appetite improved. Other symptoms weakened to a small extent. For this reason, and due to the patient's concerns about participating in the upcoming delivery, from the 5th week of treatment, the dose of paroxetine was increased to 40 mg/d. Already in the first days after this modification of treatment, the patient felt a fairly distinct change in everyday functioning. The symptoms of anxiety disappeared almost completely, which translated into better cognitive functioning in the workplace. After returning home, the man again began to actively participate in the life of his son who did not have to worry anymore that his father would shout at him. Moreover, improvement of the man's mental state, and especially greater inner peace, was attained in the last days before the childbirth. The man's account of the course of the natural birth with his relatively active participation was a confirmation that thanks to pharmacological treatment supported by psychoeducation, symptomatic and functional remission occurred. The patient was able to take care of the other son without excessive worries, and from the first day took part in care-related activities. Drugs were prescribed in lower, maintenance doses (paroxetine 20mg/d and trazodone 75mg/d) for the next 7 months and then weaned. After 13 months from the date of delivery, there was no relapse of any symptoms.

Conclusions

1. The accumulation of stress factors associated with pregnancy and the preparation of housing conditions for the welcoming of a second child most likely contributed to causing an episode of depression in the patient.
2. Psychoeducation and pharmacological treatment in the man led to the resolution of symptoms before the day of delivery and helped in adapting to the situation after the birth of the second child.

Case II

A 29-year-old male reported to a psychiatrist because of the build-up of depressive symptoms. The patient's mother had been treated for many years due to depressive disorders. The man underwent his first episode of moderate depression at age 21 and was treated for 4 months with medications from the SSRI class (also, traits of an anankastic personality were then described). The trigger factors of the first episode were most likely life changes (moving away from parents, starting studies at the Polytechnic and parting with a girl after 3 years of relationship). After completing his engineering studies, he started a job in a profession that gave him great satisfaction. At age 25, he married a woman he had known for several months; she was physically very similar to his first girlfriend. The married couple was treated for several years because of prob-

lems with getting pregnant. Treatment had the desired effect. From the moment he was informed about the pregnancy, the man began to observe fleeting anxiety symptoms with dizziness and transient thoughts that the child “will bring chaos into their organized life”. There were also growing concerns about if and how he would manage as a father. The entire pregnancy was progressing well. The son was born healthy and on time via caesarean section (planned for orthopedic reasons in the mother). In the third week post-delivery, the woman began to exhibit symptoms typical of postnatal depression that lasted continuously until the third month of the child’s life. At that point, the family reported to a psychiatrist who established the diagnosis and recommended pharmacological treatment. In parallel, weekly cognitive-behavioral therapy sessions were recommended in which the patient participated twice in the diagnosis phase. The initial period of treatment in his wife made the man feel helpless and alone. He was afraid that his wife would have to start hospital treatment and all care for the child would fall on him. At the same time, the man had growing difficulties with concentration and increasing fear of having to resign from work and lose income. To the described concerns, disorders of circadian rhythms (disruption of all sleep phases) were added. Within 2-3 weeks, the man became irritable, withdrawn, and could not appreciate the involvement of his mother, who joined in the care of her grandson. He started to “eat stress”, gave up the gym and began to make mistakes at work. Persons from his closest surroundings observed sadness in him with numerous pessimistic visions of the future (did not meet the criteria of delusions). The man’s self-esteem had decreased and he had outbursts of anger. There were thoughts of giving up but the patient denied suicidal thoughts. Compulsions in the form of repeated handwashing appeared after a few years of absence. The deterioration of his well-being reminded the patient of the first episode of depression, which is why he reported to a psychiatrist and was ready to receive pharmacological treatment.

After the examination and after the evaluation of the results of laboratory tests (without deviations from the norm), an episode of moderate depression in the course of recurrent depressive disorder was diagnosed. Treatment with vortioxetine in a dose of 10mg/d and trazodone in a dose of 150mg/d before sleep was proposed. The man resigned from work for 3 weeks. After 5 weeks of treatment (good tolerance) there was a marked improvement in the patient’s well-being. Most of the symptoms had resolved. However, the man still noticed in himself less creativity and a sense of chaos during conceptual work. The symptoms described were difficult to accept for the patient; therefore, the dose of vortioxetine was increased to 20mg/d for a period of 2 months (without changes in the dosage of trazodone). Already in the second week of this modification, the man’s productivity at work improved significantly and his self-esteem increased. Relations in the family improved. The child was developing properly and the wife found herself in the role of a mother. The couple felt competent and independent enough that they gave up the daily support of the patient’s mother. In the fourth month of the son’s life, the patient felt that he was starting to build a good relationship with his son, who reacted positively to him during face-to-face play. The moments of play with the son and even providing care were a big surprise for the patient, because earlier the man did not expect that such a banal situation could

be a source of such joy. During the psychiatric examination and therapeutic conversation, symptomatic and functional remission was found. The patient was advised to be treated with maintenance doses of antidepressants and to have a re-evaluation of the mental state in 4 months.

Conclusions

1. A few years after the first episode of depression, in the period before the birth of the first child, there was a relapse of anxious expectations.
2. Postpartum depression in the wife triggered a full-blown episode of depression in the husband who required comprehensive pharmacological treatment.
3. Multi-month treatment with drug dose modifications led to total remission and a sense of satisfaction as a father.

Case III

The third case describes a 39-year-old man who was in his second marriage (the first wife did not tolerate his depressive states and decided to break up). From the age of 24, the patient suffered from depression and was therefore chronically treated in outpatient settings and in day wards. During the therapy in the day ward, the man met his future second wife. The couple got married when they both were 34 years old. The marriage was harmonious, although both of them were still struggling with recurrent depression, taking medication and participating in individual psychotherapeutic processes (related to experiencing various forms of abuse during childhood). Psychiatrists and therapists repeatedly and independently observed in this couple the phenomenon of mutual induction of a lowered mood and drive. The same applied to periods when they were in symptomatic and functional remission for many months. It was during one such period of time without symptoms that the married couple began to strive for a child. However, pregnancy was made possible only with the cooperation with specialists from the infertility treatment center (including psychologists and psychiatrists). The couple was expecting a daughter to be born. At the time of fertilization, the patient was on a maintenance dose of 15mg/d of escitalopram along with the recommended and proven (after many unsuccessful attempts) potentiation with 100mg/d of lamotrigine. It should be emphasized that in the course of many years of treatment, the symptoms of bipolar disorder have been ruled out (no episode of mania or hypomania related or unrelated to antidepressant treatment has ever occurred). At the same time, it was shown empirically that over the many years of treatment of the patient, the longest remissions occurred while taking the combination of the SSRI and normothymic drug described above.

During the course of the pregnancy, the family situation of the patient changed, because as an IT specialist working from home, he began to spend relatively more time with his wife. The woman was continuously under the care of a psychiatrist, she did not take medication, and after halfway through the pregnancy she gave up individual psychotherapy. The woman went through the whole pregnancy in a state of

remission, and after a natural delivery of the baby, she did not experience symptoms of depression for the first few months. The depressive symptoms occurred about six months after delivery. An episode of postpartum depression was then diagnosed and it was decided to return to pharmacological treatment with individual psychotherapy. However, from the first weeks of his wife's pregnancy, the patient (despite taking medication regularly and being in remission for a period of over 2 years) began to feel psychomotor agitation and mild anxiety with the expectation of negative events. He also became explosive towards his wife, which was combined with a great sense of guilt. Already after the first week of such a state, the man reported these symptoms to his psychotherapist. The therapist, however, recommended an urgent consultation with a psychiatrist. The patient was very much anxious about his wife being authorized in the medical records to be informed about his state of health and wanted her to be removed from these medical records, only during the period of pregnancy. The man was afraid that his deepening depression could adversely affect the psychological state of his partner. During the examination, it was found that the patient had a depressed mood, psychomotor retardation and a poor appetite. At the same time, the man slept through the night and could still work intellectually at home. There were no suicidal thoughts, but he experienced periodic depressive ruminations. The attending physician diagnosed a moderate depressive episode in the course of recurrent depressive disorder and recommended an increase in the dose of escitalopram to 20mg/d and further observation of the mental state. After modifying the treatment, the patient's mental state normalized.

Three weeks after the return of the wife and child from the hospital, the patient began to develop increasing depressive symptoms related temporarily to the disruption of the circadian rhythm. Forced deprivation of sleep consisted in getting up to the child about every 3 hours as part of helping the partner or just waking up due to his daughter's crying. The patient became irritable, sad, sluggish, gradually lost his appetite, and could not work effectively after the sleepless nights. Intense thoughts of giving up emerged with extremely low self-esteem and a negative assessment of his role as a father. Additionally, memories of traumatic experiences from childhood appeared. The man denied the occurrence of psychotic symptoms, but confirmed suicidal ideation with thoughts of acting upon it. For the first time during an episode of depression, the patient felt bad enough that he was ready for inpatient hospitalization. At the same time, he was afraid of it and he did not want to leave his wife alone with the child in such a moment of life. However, the man agreed to hospitalization and treatment when his older single sister suggested that she could stay with his wife for a few months (both families of origin, due to the past, were not even informed about the birth of their granddaughter). An episode of severe depression with psychotic symptoms was diagnosed (the man revealed delusions of impoverishment after a few days of hospitalization). In the ward, escitalopram was discontinued, and treatment with venlafaxine (at a maximal dose of 225 mg/d) and olanzapine 5 at mg/d was initiated. Lamotrigine was maintained at a dose of 100 mg/d. Already in the first week of the comprehensive treatment, a gradual relief of some symptoms was observed. After 4 weeks, the symptoms completely subsided. However, the man reported numerous

concerns about the home pass visit, which is why the first visit lasted only 4 hours. This meeting with the family was a source of stress for the patient. Another two-day home pass took place after about a week and this time the patient was satisfied with the visit. The man was discharged home in a state of marked mental improvement after 6 weeks of hospitalization.

At the time of discharge, the patient's mood and psychomotor drive were evened out, there were no sleep or appetite disturbances. There were no anxieties. The patient negated thoughts of giving up and suicide. He also negated psychotic symptoms and his behavior did not demonstrate their presence. It was recommended to use venlafaxine at a dose of 150 mg/d, 2.5 mg/d of olanzapine and 100 mg/d of lamotrigine. During the next assessment of his mental state (3 weeks after discharge from the ward), the patient reported that he had returned to his professional duties. At the same time, he was already taking part in the care of the child. His weight increased by about 5 kg compared to his weight before the pregnancy of his partner. During that visit, the doses of drugs recommended after discharge were maintained. After 2 months of symptomatic and functional remission, olanzapine was discontinued in the pharmacological treatment and the remaining doses of the medication were maintained. After such a modification, symptoms did not recur. The man was satisfied with taking care of his daughter together with his wife.

Conclusions

1. A man suffering from recurrent depressive disorder, already during the early pregnancy of his wife and changes in everyday functioning experienced a slight deterioration of his mental state, which resolved during outpatient treatment.
2. Sleep deprivation associated with nocturnal care for the child contributed to a severe episode of depression that required hospital treatment.
3. During the hospitalization a full remission was obtained, which contributed to the patient taking on all activities related to the role of the father and a return to rewarding professional duties.

Discussion

The birth of a child is associated with multidimensional stress, and some authors even describe it as a mental crisis, in which the position of a child is abandoned and the status of a parent is accepted [22]. This change entails a reevaluation of the relationship with their own parents. In the perinatal period, both parents experience psychological processes (unconscious and conscious) related to their own childhood. If it was marked by traumatic experiences, their memories may induce the occurrence of anxiety and depression symptoms, reveal a masked depression or be the cause of recurrence in chronic mental disorders [22-24]. As we know from epidemiological studies, the role of stress in revealing symptoms of depression is greatest in the first episode. Stressful life events are mainly different categories of losses, but they can be periods of emotional burden associated with adapting to new conditions or taking on

new roles and responsibilities [25]. Waiting for a child, followed by a big change in the life situation is such a moment in a man's life and can lead to perinatal depression.

The three described patients presented themselves to a psychiatrist at a time when their life partners were pregnant or in the postpartum period. Each of them experienced an episode of depression, either the first episode or a subsequent episode (in the course of recurrent depressive disorder), similar to the descriptions in other publications on this topic [2,5,6]. Each of the described men experienced more or less severe anxiety symptoms with or without somatization. This observation seems to be extremely important, as there is an ongoing discussion on the lack of appropriate diagnostic tools to assess the wide symptomatology of depression in males and there is emphasis on the need to supplement the scales assessing the severity of depression with scales assessing the intensity of anxiety with somatization in the group of fathers [26]. Disturbances of circadian rhythms are also preliminary symptoms that preceded wider depressive symptomatology in the presented patients. They occurred in the form of sleep disorders during the pregnancy of the partner, or post-delivery during the night care for the infant. Precisely this chronology is described in observational studies. A similar situation concerns the eating disorders observed in these men [14,15, 27]. In addition, in the psychopathological picture, dysphoria was present with sadness or even without it. Researchers of the subject emphasize that it is an important component of depression in men, due to its impact on the partner relationship or possible violent behaviors toward loved ones [26, 28].

All three patients experienced a negative impact of cognitive processes dysfunction on occupational activity, which even had to be periodically interrupted. Teams of researchers emphasize that the deterioration of fathers' work performance after childbirth is paradoxically a factor that makes them aware of their illness and prompts them to look for specialist help [29]. In two of the described cases, the partners also suffered from depression, but only in one of them can be found the phenomenon of mutual induction of depression, which is described in the literature [2, 6, 16]. Clinical observations and research results prove that thanks to comprehensive treatment, fathers may experience the feeling that the depression has passed and may return to their roles. This was the case in the examples described above. Patients in remission had better relationships with their partners and better interactions with their children. They also experienced positive emotions, which, in accordance with research results, is the most important goal of effective treatment of fathers' depression at this point in the family life cycle [2, 28-30].

Final applications

The description of the presented clinical cases partially confirms the results of the studies cited at the beginning of this article. It also prompts to the conclusion that depression in fathers is a poorly researched issue that requires further clinical trials, extended to neurophysiological research. The knowledge obtained in this way may contribute in the future to effective prophylaxis (primary and secondary), the aim of which is to reduce the negative impact of perinatal depression on fathers and on family systems in the long-term perspective.

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