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Psychotherapy as a supportive factor in infertility treatment

Psychoterapia jako czynnik wspomagający w leczeniu niepłodności

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Abstract: Undoubtedly, for most people having children is the most important biological instinct that conditions the survival of the species. Many couples have difficulties with conceiving a baby. Infertility is a specific problem of social range. It is estimated that in Poland it affects over a million couples per year, though not all couples seek a specialist help. Lack of children, which results from infertility, is a part of human life causing serious psychological consequences, i.e. frustration, stress, quarrels in relationships, lack of family sense, loss of goals, depression. The purpose of the article is to analyze the phenomenon of infertility with regard to causes, difficulties in treatment, its impact on mental functioning and the role of psychotherapy in its treatment.

Key words: infertility, infertility treatment, psychotherapy

Abstrakt: Niewątpliwie, posiadanie potomstwa jest dla większości ludzi najważniejszym instynktem biologicznym, który warunkuje przetrwanie gatunku. Wiele par ma trudności z doprowadzeniem do poczęcia. Niepłodność to specyficzny i wyjątkowy problem o zasięgu społecznym. Szacuje się, że w Polsce dotyka ona rocznie ponad miliona par, choć nie wszystkie pary szukają pomocy specjalistów. Brak dziecka, wynikający z niepłodności wpisuje się w wymiar ludzki, powodując poważne psychologiczne konsekwencje, tj.: frustracja, stres, kłótnie w związku, brak poczucia rodzinnej więzi, utrata celów, stany depresyjne. Celem artykułu jest analiza konstrukt, jakim jest niepłodność z uwzględnieniem przyczyn, trudności leczenia, jej wpływu na funkcjonowanie psychiczne oraz rolę psychoterapii w jej leczeniu.

Słowa kluczowe: niepłodność, leczenie niepłodności, psychoterapia

1. Infertility - analysis of the phenomenon

Infertility should be understood as the inability to get pregnant despite systematic unprotected intercourse for more than 12 months (WHO, 2000) with an indication that even young and completely healthy couples have approximately 40% chance of getting pregnant. The specificity of infertility is mainly related to the fact that despite being good medical condition of both the woman and the man attempts to beget a child are unsuccessful. Inability to get pregnant can be caused by both male and female infertility. Therefore, for scientific purposes there is a distinction between male and female factors of infertility (Bidzan, 2006).

The term "female infertility" is understood the inability to become pregnant or carry it full term while a male one is defined as an impediment or inability to have sex which may

be caused by: genital trauma, erectile dysfunction, sperm ejaculation disorders or its defect (Orzeszyna, 2005).

The literature on the subject distinguishes the division into primary and secondary infertility. The first type concerns women who have never been pregnant and the second – those who were and ended with childbirth or miscarriage – natural or artificial – and have a problem with getting pregnant again. In addition, we can talk about secondary infertility when a woman may become pregnant but has difficulties with carrying it full term (FAND, 2007).

Specialists examine this issue carefully and try to answer the question if it is a reproductive system disease. To answer this question, we need to learn the definition of "disease". According to the World Health Organization illness is the opposite of health, i.e. physical, social and mental well-being. Within this approach three definitions of the disease are distinguished (WHO, 1948): anti-health condition, scarcity of health, condition of disability and discomfort.

There is no definitive answer to this question. Opponents of equating infertility with illness claim that it concerns a single individual while others think it is a disease – but quite specific because it is characterized by lack of physical pain, does not lead to disability and its signs are not life threatening (Uszyński, 2001). Any ongoing debate about infertility and its recognition of a medical condition are most often connected with an ethical and moral area in the context of methods of its treatment with particular emphasis on assisted reproduction techniques and their financing. In a political environment, almost always an argument referring to lack of financial resources in the life-saving procedures sector is used. Due to this fact, it is easier to deny the position referring to the fact that infertility is a disease. Otherwise, the State would be obliged to take responsibility for funding mentioned procedures (Ibidem).

The World Health Organization (2000) postulates that infertility should be considered a social disease, i.e. widespread, chronic, difficult to cure, requiring long-term medical care and limiting the individual the possibility of carrying out developmental tasks at a specific stage of development. Therefore, infertility is combined with diseases such as alcoholism, AIDS, diabetes and atherosclerosis.

2. Causes of infertility

Female fertility depends on the functioning of the hypothalamus - pituitary - ovary axis, ovulation and production of the corpus luteum which is responsible for the production of hormones, supporting the development of pregnancy at an early stage of its duration. The next step is the uptake of the ovum by the hyphae of the fallopian tube and its transport through the unclogged fallopian tube where fertilization occurs. The next stage is

the nesting of a zygote in the uterus which membrane is transformed due to the proper functioning of the corpus luteum (Klimek, 1995).

Female infertility can result from functional or structural abnormalities of the ovaries, e.g. ovarian dysfunction, primary ovarian hypoplasia, too early ovarian failure, hyperandrogenism which results from ovarian polycystic disease and tumors (Niewidomska, 2005). The literature on the subject also distinguishes the fallopian tube causes associated with the abnormal transport of the ovum, located in the fallopian tube, to the uterus and the failure to provide a microenvironment conducive to egg cell fertilization (Bidzan, 2006). In addition, impaired tubal patency is a major difficulty in getting pregnant - it is estimated that almost 30% of failures are associated with this cause. Inflammatory processes, previous illnesses, infections of the genitourinary system lead to overgrowing the fallopian tubes. Another factor affecting infertility is a history of tubal pregnancy or sterilization in the past. Additionally, the described causes can be a consequence of both primary and secondary disorders. The first mentioned type is the result of congenital malformations (unilateral or bilateral obstruction of the fallopian tubes, no fallopian tubes) while the second is linked with previous medical conditions (Ibidem, p. 19). According to Orzeszyna (2005) inflammation of the uterine membrane can infiltrate into fallopian tubes.

Infertility may also result from uterine reasons. Various defects of this organ have a great impact on fertility. This is about congenital causes: uterine absence, uterine abnormality, hypoplasia or abnormal position, as well as acquired ones that may occur after surgery, e.g., curettage of the uterus. The consequences of the first of these are miscarriages, premature births and the second ones include difficulty in getting sperm into the fallopian tubes or deformity of the uterus (Bidzan, 2006). An example of uterine causes is Asherman Syndrome which usually occurs after cervical dilatation; estrogen deficiency; cesarean section; myomectomy and/ or tuberculous inflammation (Sanders, 2006).

The cervix plays a very important role in the fertilization process due to the fact that it secretes mucus that stores and helps the sperm reach the woman's genital tract. It is made of water, proteins and electrolytes and its secretion is associated with an increasing concentration of estrogens just before ovulation. It facilitates the fertilization process because it maintains the sperm active 48 hours (sometimes even more) after intercourse increasing the likelihood of becoming pregnant. Research has shown that sperm can be motile in mucus secreted by the cervix up to 5 days after intercourse. Its malfunction is a big obstacle to getting pregnant and affects about 10% of infertile women (The Practice Committee of the American Society for Reproductive Medicine, 2006). Various types of vaginitis and cervicitis infections affect the pH of cervical mucus while hindering or preventing the transport of sperm. Surgical procedures, e.g. conization, electroconization of the cervix, laser therapy and cryotherapy lead to damage to this organ very often which results in a reduction of mucus produced (Forti and Krausz, 1998).

Causes of infertility can also be found in the structure of the vagina, e.g., improper shape, size, inflammation (bacteriological or biochemical). The division into congenital and acquired stands out here. Congenital include no vagina, its septum or atresia. All defects that arise as a result of inflammation, a history of illnesses or surgery are acquired (Gumułka, Rewerski, 2011, p. 1818).

Endocrine reasons also should be mentioned because the reproductive process is controlled by the endocrine system. As a result of the disorder, problems with conception or pregnancy may be observed. The hypothalamus is responsible for the secretion of the GnRH hormone, which has a great impact on the pituitary gland - it stimulates the secretion of gonadotropins. These, in turn, affect the ovaries, which secrete hormones, which are the basis in the regulation of a woman's ovulation cycles (Bidzan, 2006).

Analysis of marital infertility shows that in about 40% of cases the cause lies in the man. It is predicted that it may become dominant soon (Orzeszyna, 2005). Male fertility depends on the continuous production of sperm by the epithelium called sperm-forming. It is a process that is controlled by the concentration of testosterone which is formed as a result of the action of LH, which affects Leydig cells and stimulation of cells by FSH. At a later stage, the sperm matures and reaches activity in epididymis. During ejaculation, the semen connects with gonads which make up 95% of the ejaculate (Ibidem, p. 48).

Inability to fertilize may result from disorders of spermatogenesis - resulting from hereditary and developmental changes as well as mechanical obstacles such as: physical trauma, result of cystic fibrosis, residual inflammation (McLachlan et al., 1997). The most common congenital cause of infertility is cryptorchidism, i.e. the absence of testicles in the scrotum immediately after birth. The longer the testicles are outside the scrotum, the greater the chance for spermatogenesis disorders. While the testicles or testicle are in the abdominal cavity or in the inguinal canal, their function is reduced. Temperature is usually the reason because it is higher than that which occurs in the scrotum. Lack of treatment may be risky in the future for cancer so it is recommended to start it before the age of 2 (Giwerzman and Giwerzman, 2000).

If the reasons for the decrease in sperm quality and quantity are not found, the efficiency of the seminiferous tubules should be determined. Most men have normal male characteristics, but the laboratory image indicates oligospermia or cryptospermia (too few sperm in the preparation). In addition, diseases that cause male gonad dysfunction include: infectious diseases such as mumps, tuberculosis, and gonorrhoea. Inflammation can lead to significant disorders in spermatogenesis (Ibidem).

There are also other causes of infertility or pregnancy loss. These may include bleeding and blood clotting disorders, anti-sperm antibodies, chromosomal abnormalities,

infections or connective tissue disorders. Age is an important factor because it has been scientifically proven that the higher it is, the lower the fertility (Adamson, Baker, 2003).

3. Difficulties in treating infertility

Infertility treatment is considered as quite unique because the doctor treats two patients at once. Over the past decades, significant progress in the prevention and treatment has been observed. This is a difficult procedure that requires a lot of patience from both sides (Orzeszyna, 2005, p. 76). A great facilitation heeding the fact that a married couple is an inseparable whole and the lack of a child is not anyone's fault. Nobody should name one of the spouses guilty because it is quite harmful. There is no universal treatment program that is 100% helpful. Over the past years, nanotechnology has developed – a system that monitors reproduction and is a great help in gynecological treatment. The *in vitro* method is also a solution but it should be remembered that it focuses only on reproduction – it does not restore health (Jakimuk, Czajkowski, 2007).

Infertility treatment is a long and complicated process but it is worth implementing it because of achieving the expected results. No one should overlook the aspect of individuality and the fact that although the problem is the same, the factors and planned treatment are completely different. Sometimes pharmacotherapy or surgery is enough and sometimes psychotherapy combined with another method is needed (Orzeszyna, 2005).

Difficulties in the treatment of infertility are also visible in the spiritual aspect of spouses (Stec, 2017). They face a huge dilemma – it is mainly about ethical issues. Referring to the rules proclaimed by the Catholic Church, *in vitro* fertilization violates the principle of respecting human dignity. In addition, it is contrary to the right of every human being to life from conception (Chazan, 2009). In this controversial method, egg cells are artificially fused with a sperm, which results in receiving in an average of 6 - 8 embryos (Wasilewski, 2011). Then, the two "best" of them are implanted into the uterine cavity while the rest are subjected to so-called freezing. In this process, some of the embryos dies, which can be considered as "unnatural death of a human being in the embryonic stage" (Ibidem, p. 39). Moreover, it is allowed to destroy these embryos which are not able to develop properly. This can be considered in terms of a return to eugenic ideas (Mazur, Muszala, 2015). It can be concluded that the methods which lead to conception without a marriage act contribute to treatment the embryo like an object which is not the pledge of marital unity but a gift from the laboratory (Stec, 2017).

4. Impact of infertility on mental functioning

According to researchers (Makara-Studzińska et al., 2012) inability to be a parent has a huge influence on the sphere of mental and emotional functioning of couples, frustrating and giving grounds to devalue themselves. This is because having a child is considered to be the main cause of marriage (Ibidem, p. 29). The literature on the subject shows infertility as a contribution to potential marital quarrels, a number of misunderstandings and the very desire to beget a child as a superior value - exceeding other problems and ambitions (Ibidem, p. 29). The psychological perspective emphasizes the importance of mental provenance factors as significant in the process of etiopathogenesis of the disorder. Psychosomatic concepts indicate the relationship between adverse psychological stimulation and its effects on a whole range of reproductive activities. According to Makara-Studzińska et al. (2012) this interaction concerns: "sexual needs and activities, ovulation, transport of spermatozoa, transport and implantation of the fetal egg and its maturation as well as development, initiation and its course" (Ibidem, p. 29).

Tab. 1. Some factors that may affect the mental functioning of couples struggling with the problem of infertility

Psychological factors that play an important role in the occurrence of phenomena conditioning infertility	Factors connected with treatment	Specific factors in the group of women and men
<ul style="list-style-type: none"> - Emotional hypersensitivity; - Psychosexual development disorders; - Sexual dysfunction (as a consequence of the mentioned conditions); - High stress level; - High anxiety level; - Defective personality development; - Negative attitude to the partner; - A state of chronic emotional tension; - Impairment of proper body functioning; - Internal conflicts regarding parenthood; - Expectations concerning the future and marital relationships; - Shock; - Obsession; - Moral dilemma: infertility treatment and religion; - Depression; - Loss of joy of life. 	<ul style="list-style-type: none"> - Susceptibility to hurt linked with emotions inseparable from the infertility treatment process; - Painful procedures; - Many additional duties. 	<ul style="list-style-type: none"> - As far as women are concerned, the inability to meet maternal needs can also cause psychological problems; - In a group of ladies, loss of interest in everyday life and routine activities; - Depression, strained contacts with family, partner, friends; - Problems in the content of thoughts; - Difficulties in concentrating; - Sleep disorder; - Fluctuations in appetite (its increase or decrease); - Alcohol abuse; - Decreased libido level; - Suicidal thoughts; - Social isolation; - Growing pessimism; - In the group of women: low self-acceptance as women, low self-esteem, increased sense of being controlled by the outside, reduced satisfaction with life.

Source: Own elaboration based on Makara-Studzińska, Wdowiak, Bakalaczk, Bakalaczk, Kryś, (2012, pp. 28-35); Makara-Studzińska, Wdowiak (2009)

The multitude of psychological factors that are involved in the process of developing disorders connected with fertility allows to look at the described phenomenon in a psychiatric, psychotherapeutic and psychological perspective, providing a basis for supporting couples in mentioned disciplines using the available tools.

5. Chosen psychotherapeutic currents

Psychotherapy is defined as a journey into the self, reaching into empirical knowledge which foundations are derived from psychology, philosophy and medicine. It is practiced in the treatment of mental disorders or life crises (Chanik et al. 2011). The word "psychotherapy" is a combination of the two words "psyche" and "therapeuēin" which means healing the soul. The first mentioned word has been replaced with technical terms such as "internal states, mental processes, self, mind, mental apparatus, personality" (Opoczyńska, 2016, p. 38).

Psychotherapy offers a wide range of techniques and methods of working with clients but the choice of these tools will depend on the current in which the psychotherapist works. At present, several schools enjoying high esteem should be distinguished. There are many ways to classify psychotherapeutic currents, among others, because of the date of their foundation or the sphere of human functioning. Creating a clear classification of so many theoretical approaches seems to be a laborious and almost impossible (Grzesiuk, 2005). Since modern knowledge in the field of psychotherapy is very diverse, the following table is a condensation of knowledge about several therapeutic approaches describing main assumptions.

Tab. 2a. Some approaches in contemporary psychotherapy

The approach	Main assumptions
Psychoanalytical approach	<ul style="list-style-type: none"> <li data-bbox="804 1503 1374 1727">– Actual problems and symptoms are the consequence of unconscious conflicts, personality difficulties and the compulsion to copy patterns of past painful experiences; <li data-bbox="804 1738 1321 1870">– Human protects himself against the pain of existence by using defense mechanisms.

Tab. 2b. Some approaches in contemporary psychotherapy

Psychodynamic approach	<ul style="list-style-type: none"> – Focusing on manifestations of unconscious tendencies, impulses and emotional states of the patient; – Human problems result from adverse ways of interpreting the reality. – The work consists in redefining oneself and external factors.
Cognitive Behavioral approach	<ul style="list-style-type: none"> – The perception and interpretation of life events as well as beliefs and thoughts determine mood and feelings.
Gestalt school	<ul style="list-style-type: none"> – Being here and now; – There is no past and future (they are only in our minds); – Therapy is building a person's maturity and adulthood; – "Be yourself and live the way you want, respecting yourself and others".
Process-oriented approach	<ul style="list-style-type: none"> – Human problems are the result of internal unconscious conflicts that manifest themselves through external difficulties.
E. Erickson's approach	<ul style="list-style-type: none"> – Focusing on the client's potential strength; – Using creative solutions in a problematic situation; – Man has the ability to develop, entering the next stages of life.
Brief Solution Focused approach	<ul style="list-style-type: none"> – The so-called one meeting therapy; – Searching for the answer to the question: Why does a man come (not why)?; – Supporting the client in finding solutions; – Understanding the situation and managing it to achieve the intended effect.
System approach	<ul style="list-style-type: none"> – Interpreting the individual in the context of the system, i.e. the complex reality of the elements (but not their simple sum); – Emphasising useful solutions for the client; – Indicate the strength of ties with family; – Crisis is a source of personal development.

Source: Own elaboration based on Chaniak et al. (2011) Grzesiuk (2005)

The above-mentioned approaches do not constitute all of the available methods and forms of psychotherapy. For the purposes of this article, these which may have a particular importance in working with a couple facing the problem of infertility were listed.

6. Supportive role of psychotherapy in infertility treatment

Despite the growing popularity of using psychological, psychotherapeutic or psychiatric services, reaching for professional help is the last step in the treatment process also when it comes to infertile couples. Because of arduous way of medical procedures couples may be reluctant to use another institutional help (Krzemińska, 2018). Exhaustion, loss control of own life, fatigue and reduced quality of life can be the basis for making the first appointment.

The main task of psychotherapy in the treatment of couples facing the problem of infertility is to restore the sense of their life and values which were lost due to the inability to have their own children (Ibidem, p. 126). Another field of therapeutic work is helping in reducing and dealing with stress it by using, among others, relaxation techniques. Researchers and practitioners emphasize the importance of hypnosis and hypnotherapy in treatment. Clinical studies prove that the use of these methods has increased the effectiveness of the *in vitro* method (Leviatas et al., 2006 after: Chanduszko-Salska, 2016). Art therapy and self-hypnosis are also used to reduce emotional tension and develop mindfulness. Chanduszko-Salska (2016) lists other benefits of using psychotherapy in the treatment of infertility and there are: "improving psychosocial functioning, increasing self-efficacy, reduction of depression symptoms, reduction of stress and anxiety, reduction of sense of failure, increasing self-acceptance, development of the ability to distance oneself from anxiety-giving thoughts, focus on finding satisfaction from small joys" (Ibidem, p. 25). The author emphasizes the importance of the psychological characteristics of people who are struggling with the problem of infertility because learning behavior patterns, coping with difficult situations and analyzing attitudes can have a significant impact on the effectiveness of using medical methods (Ibidem, p. 27). Psychotherapy and broadly understood psychological support should accompany the couple not only during the medical intervention but also after the birth of the child. There will be a space for exchanging thoughts and building relationships with the newborn. The literature on the subject indicates that couples who use assisted reproduction methods are extremely prone to depression so there is the need to continue using the professional help (Ibidem, p. 28).

Summary

A large number of scientific data underlines the importance of psychological factors in the genesis of infertility. In addition to personality traits, the authors pay attention to the role of stress, content of thoughts, depression and growing negative emotional tension. Psychotherapy, along with its holistic approach to all human difficulties, enables the treatment of psychogenic infertility giving the opportunity to understand own life situation, redefining oneself as a mother and father, strengthening ties with partner and allowing a constructive exit from the crisis phase.

Aid offered by psychologists and other professional "helpers" can take one of the forms: consultation, conversation, psycho-education, individual therapy, group meetings or crisis intervention. For specialists cooperating with couples it is essential to improve their own competences and update scientific knowledge all the time. The quoted data indicate a considerable role of psychological support in the process of psychogenic infertility treatment. In the future, it is worth reflecting on a group of specialists who offer their support to infertile couples to develop forms of reaching the widest range of childless couples.

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