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REVIEW ARTICLE

Psychological Distress and Coping Mechanisms in Infertile Couples

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Abstract: Numerous motivational and strong emotional intentions can be found in the background of the desire for a child. Hence unintended childlessness gives rise to a severe psychological burden to both members of the couple. In the literature, several studies are involved in the exploration of this subject, albeit most of them bring into focus the differences of psychological liabilities between the genders. A smaller proportion of these papers examined the psychological aspects affecting couples, and just a very small number of studies investigated the psychological aspects in men. Nevertheless, most of the studies proved that although the psychological aspects in women can be more significant compared to their partner, the psychological burden of infertile men are obviously above the population average. Several different, gender-specific coping-mechanisms have been identified, which tend to be less successful in men compared to women. The acquirement of proper coping mechanisms could be more emphasized during the psychotherapeutic part of reproductive treatment.

Keywords: Infertility, Depression, Coping, Anxiety, Supportive psychotheraphy, Psychological distress.

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1. INTRODUCTION

Today, in the developed countries, one of the biggest reproductive health challenges is the high rate of childlessness and infertility. Despite the fact that in the last hundred years the world population has increased almost five times mainly as a result of the increasing population in the developing countries, the birth rates of the developed societies are continuously decreasing [1].

The studies distinguish between the aspects of involuntary childlessness and voluntary childlessness. The reason for decreasing birth rates in advanced industrial countries is mostly because of social and economic factors, and a large part is also due to personal choice. Miettinen and Szalma found that the rate of European people of reproductive age who were voluntarily childless was generally between 1-6%. The most decisive reason, for both women and men, was the lack of a relationship [2]. A subsequent Hungarian study showed that the role of this most decisive factor decreased in a timespan of ten years; in 2001, 67% of single women had no child, and ten years later, 51% were childless [3]. Despite this favorable trend, the fertility rate is still stagnating or dropping in the developed countries. What can be the cause of the radical decrease in childbearing? On many occasions, it is difficult to distinguish between the voluntary and involuntary childlessness, since the late, conscious childbearing, generally occurring between the age of 35-40 years, can easily lead to reproductive health problems [4].

The desire of having a child is an instinctive, complex motivation. Unintended childlessness can put serious psychosocial weight on the affected couple [5]. There are many ways to approach the emotional aspects of infertility. It is questionable whether this psychological burden is a consequence of infertility, or it was present previously, or it appears as a cause of childlessness. If we count it as a consequence, the question arises which phenomenon can be its direct source: a desire for incapable childbearing, or assisted reproduction treatments, the diagnosis itself, patient stigmatization, or a reaction to the partner's behavior. In the literature, many studies deal with this subject, but most of them focus on the differences between genders, and most of these papers consider the women's aspect as more significant [6]. Most authors agree that the members of the couple affect each other psychologically and they are facing infertility as a couple [7].

The aim of this paper is to review the literature regarding the psychological aspect of infertility, paying special attention to depression, anxiety and coping strategies in infertile couples.

2. METHODS

In the preparation of this study, a research was conducted in the databases SCOPUS, PubMed, EMBASE using the keywords 'infertility', 'depression', 'Beck depression inventory', 'BDI'; 'infertility', 'anxiety' 'Spielberger', 'STAI'; 'infertility', 'coping mechanism'. Similar keywords were used

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in Hungarian in the Matarka database. Only papers in English or Hungarian were included. For the basis of this summary, self-survey studies were selected with at least 100 patients using Spielberger Anxiety Type Inventory (STAI) and Beck Depression Inventory (BDI) from the last nineteen years. Papers from earlier years were included only if they were judged as containing fundamental data or definition of the topic. The studies examining coping strategies used the Conflict Resolution Survey, as it is the most commonly used questionnaire in daily clinical practice. Studies on special populations (*e.g.* patients with endometriosis, polycystic ovary syndrome, *etc.*) were excluded.

3. RESULTS

We found 162 articles regarding infertility and depression, 43 articles on the topic of anxiety and infertility and 58 papers dealing with coping mechanism in infertility. After applying our inclusion and exclusion criteria, altogether 25 articles were analyzed. The comparison studies mostly discussed the aspects of psychological differences between genders, a smaller part of the research was focused on the aspect of psychological burden on couples, and only some research emphasized the emotional burden on males separately.

3.1. Motivations Behind Childbearing

Infertility is determined as an inability to become pregnant within one year despite regular unprotected sexual intercourse. If the woman is older than 35 years, the diagnosis of infertility can be established after 6 months. Between 8-15% of couples in the reproductive age are reported to be affected by infertility [8].

Infertile women and men form an applicable group for observing motivations of becoming parents. These motivations may remain hidden in healthy couples, but in infertile patients, it manifests itself as unfulfilled desire [9]. Childbearing motivations include age, relationship status, social-cultural expectations, striving for equality, religious and economic reasons [10]. Several studies compared men's motivation for fatherhood with women's motivation to become a mother [6, 11, 12]. In an Australian study, Fisher *et al*. studied men who were diagnosed with infertility more than five years ago. Of these men, 84% showed a desire of having a baby at least as strong as their female partner did, and less than half thought that involuntary childlessness affected women more strongly than it did men [13]. Also, there is another study from South Africa, which shows that men are seriously affected emotionally by infertility. For men in infertile couples, there were three motivations for having a child: being happy, the experience of fatherhood, and striving for a better quality of life [9].

3.2. Depression and Anxiety

In the course of involuntary childlessness, psychological differences are the feedback response due to the stress of this crisis situation [14]. We can differentiate this distress into intrapersonal and interpersonal aspects [15]. In the literature, depression, anxiety and problematic self-evaluation are mostly emphasized as the expressions of the intrapersonal aspects. Interpersonal consequences can be problems in the relationship, unsatisfied sexuality, or possibly a decrease in the frequency of sexual intercourse. According to Szigeti, these interpersonal difficulties - such as marriage conflicts - lead to a decrease in subjective well-being [15].

Regarding childless couples, the most frequent psychological disorders are anxiety and depression, hence a significant part of the literature focuses on these symptoms [7]. Generally, studies highlight a stronger emotional burden on women, but it can also be underlined that their male counterparts are in an inferior psychological condition compared to men in the general population [6, 16 - 19]. Edelmann studied the depression and anxiety levels of 246 infertile couples in England. According to his results, men's depressive and anxiety scores were significantly lower than their female counterparts [20]. Volgsten *et al*. found that 10.9% of infertile women suffer from major depression, while only 5.1% of men are affected. In the same patient group, 14.8% of women and 4.9% of men showed symptoms of anxiety [21]. In a recent research, we found surprisingly low levels of depression and anxiety scores in men at the start of the fertility workup, suggesting that infertility evaluation and treatment may play a role in the emergence of psychological symptoms [22].

Some of the studies on men alone aimed to assess the psychological state of infertile men through the involvement of a healthy control group. In Poland, Drosdzol *et al*. compared 188 infertile male patients aged between 20-45 to the male members of 190 couples of the same age, who had at least one child. According to their results, the scores of infertile men for both psychological disorders were higher than those of fertile patients, with 15.6% of subjects suffering from mild depression [16]. Similar results have been reported by a Finnish study comparing the psychological status between 2291 randomly selected men, some of whom had experienced, and some of whom had never experienced involuntary childlessness [23]. In a Hungarian study, a relation was identified between the signs of depression and a deterioration in the quality of life [24]. In both sexes, the partner's depressive symptoms can further increase the infertility-related concerns. However, men are even more concerned about their sexual life, if their spouses suffer from mild depression [24]. Similar results were documented in an Italian study. Chiaffarino *et al*. evaluated 1000 couples undergoing assisted reproductive treatment [25]. The study used a self-filled survey to measure the socio-demographic background and psychological state of the couples. According to their results, 14.7% of women showed anxiety, and 17.9% had depressive symptoms, while men had the same symptoms at 4.5% and 6.9%. However, the study also highlighted other contexts: women with depressive and anxiety symptoms generally had partners with symptoms of anxiety. Depressed and anxious men often had a female partner with problematic psychological status. Gender differences in depression and anxiety levels were confirmed in a South-Korean study, as well. Quality of life was lower, infertility distress and depression scores were higher in women. Moreover, significant actor-partner effects were observed, as the wife's infertility-related stress had a negative impact on the husband's quality of life [26].

3.3. Coping Mechanisms

Any cognitive or behavioral effort can be considered as a coping mechanism that is used by the individual to deal with an external or internal influence that is judged to outweigh or subvert current personal resources [27]. According to the transactional approach, behavior is the result of a continuous interaction between the individual and the environment, and the coping mechanism is one of the key variables which modulates this transaction under difficult adaptation conditions [27]. Infertility can be considered as a difficult situation to adapt to since it is associated with serious loss experience [15]. Loss, because the infertile couple loses the feeling of expecting a child, the joy of raising a child, and the acknowledgement of people. They face the failure to meet their personal expectations and fear hopelessness for the future, which they have to reshape and rebuild. In such a situation, the success of further progression is not only contributed by the psychological well-being of the individual, but also by the adaptive coping strategy of the situation [28]. In the literature, usually problem-solving (rational) and emotional-centered coping strategies are distinguished. The problem-solving coping mechanisms actively change or eliminate the circumstances that directly trigger stress, while emotion-centered coping mechanisms control the emotions provoked by the stressful life situations [29 - 31]. If we see the environment as changeable, we use problem-solving strategies, if we define it unchangeable, we prefer emotion-centered approach [27, 32]. However, responses to specific stressors are extremely varied. The success of any coping may depend on both the situation and the characteristics of the person involved [27]. In order to assess coping strategies, self-reporting questionnaires can be used, including the most widespread Conflict Resolution Questionnaire (Ways of Coping Questionnaire) as finalized by Folkman and Lazarus [29]. Over the past few decades, many authors have connected involuntary childlessness, as a hardly adaptable condition with the coping mechanisms [30, 31, 33 - 35]. Peterson *et al*. used WOCQ (Ways of Coping Questionnaire) to discover coping mechanisms among infertile couples [34]. 1169 women and 1081 men were involved in their research, their subjects were all facing infertility. On the basis of their study, four basic dimensions were drawn: active-avoidance, active-confronting, passive-avoidance, and meaning-based. The active-avoidance type person is definitely keeping away himself from any situation that would resemble the failure of childbearing. The active-confronting people express their emotions, seek help, and get advice from their fellow peers. The passive-avoidance type waits and hopes for change, and finally the meaning-based person seeks the cause and meaning of infertility, giving an optimistic outlook to what has happened. Based on their research, it has been proven that whichever gender is involved; the active-avoidance personality correlates with higher intrapersonal and interpersonal distress. The active-confronting people using emotional expressions primarily burden their partner, and the use of such a coping mechanism involves a higher level of relationship distress. Mostly, active-confronting patients can gain benefits from online groups. These communities can provide support, empathy and patients can share their experiences [36].

The goal of Hungarian research was to analyze the psychological status of infertile Hungarian couples. They assessed the typical coping strategies and marital co-operation. Gender differences were clearly identified. Men were more inclined to have a meaning of life-seeking strategy. According to the conclusion of their results, this seemed to be a successful coping mechanism in which the individual could face and was able to tolerate the distress of involuntary infertility [37]. Typical gender-specific coping strategies were demonstrated in the study of Peterson *et al*., too. Men's typical coping mechanism was distancing and self-control, while women preferred seeking professional support, seeking social support, and taking responsibility [38]. Taking these gender-specific coping strategies into account, it is possible that the psychological involvement of infertile men is under-measured in the research studies.

According to Schmidt and Holnstein; having wrong spousal communication and using the avoiding coping strategy involves significantly higher infertility-specific distress in both genders [39]. For an infertile couple, it may be essential to choose a coping strategy to reduce distress. Adequate coping mechanisms should be considered for psychotherapeutic treatment of infertility.

3.4. Cultural Attributes

Comparative, cross-cultural researches are scarce in the literature regarding the psychological aspects of infertility. In most communities, childbearing is closely connected to womanhood [40], and undoubtedly contributes to the good quality of men's life [9]. Infertile women share a common experience, like anxiety, depression, stigmatization, self-blaming, regardless the cultural environment [41]. However, in the developed countries, as a consequence of safe contraceptive methods, childbearing has become a matter of choice [42]. Families are smaller, and as a result, infertility remains mainly a private issue. In contrast, in developing countries, a family is typically extended, with strong interpersonal relations [41]. Childbearing is strongly expected by the relatives too, hence infertility is considered not only a personal but a family failure. Similar pressure is placed on the husband as well, which can cause negative attitude towards his partner [43]. In some countries, up to 50% of women report negative reactions from their partners, or family members, or even the social environment [43, 44]. Coping responses to the problem of infertility may display different patterns depending on the cultural environment. Religious coping, passive avoidance, fatalistic attitude are more common in developing countries, while in high-income countries patients often seek information and support online, and they trust the medical solution of their childlessness [36, 41]. From the cross-cultural observations, it can be concluded, that several psychological aspects of infertility are common in all the patients, but significant cultural differences exist. These differences have to be taken into account in research, and in therapy as well [41].

3.5. Supportive Psychotherapy

The literature highlights depressive and anxiety symptoms in connection with infertility-specific distress, regardless of the economy level of the country where the couples live [16, 21, 23, 26, 28, 43, 45 - 47]. The need for psychotherapeutic

support can be verified through various tests and surveys. Depression can be screened with the Beck Depression Inventory, while anxiety is generally measured using the Spielberger State-Trait Anxiety Inventory. Both tests are self-administered questionnaires, so they can be easily used in the clinical setting. It is also beneficial to assess the general well-being of the infertile couple, which can be measured using the WHO General Welfare Index, or the widely used Quality of Life Scale (QOLS). The Fertility Quality of Life (FertiQL) is a more specific test, which summarizes the quality of life associated with fertility. Fertility Problem Inventory (FPI) focuses on infertility-related distress, higher scores indicate the presence of anxiety and increased distress.

The congruent conclusion of the studies is that patients suffering from an infertility crisis need psychological support. Several researches proved the necessity and usefulness of psychotherapeutic intervention. In their study, Domar *et al*. compared the psychological status of infertile patients treated with cognitive-behavioral and group therapy with patients not receiving any type of therapy. The study considered depressive and anxiety symptoms, marital distress, and lifestyle characteristics. The treated individuals achieved significantly better psychological results than the control group [48]. In contrast, Hämmerli *et al*. in a meta-analysis, found that psychotherapy did not bring a clear improvement in the psychological status of the infertile group. However, the rate of conceiving increased significantly as a result of mental support [49]. Based on the increasing data, professional psychological counseling should be an integral part of the infertility treatment.

CONCLUSION

Growing evidence suggests that more attention should be paid to the psychological aspects of infertility, for both men and women, thereby increasing not only the chance for conceiving, but allowing the person to get closer to a healthy physical, mental, social and spiritual state. The data for infertile women are clear, their psychological status is inferior compared to their fertile counterparts. Considering social interactions and the known gender-specific coping mechanisms, we can assume that the psychological aspect of infertile men is under-measured in the literature. It is unquestionable that every assisted reproduction center should have a psychologist, as a full-time team member.

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CONFLICT OF INTEREST

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