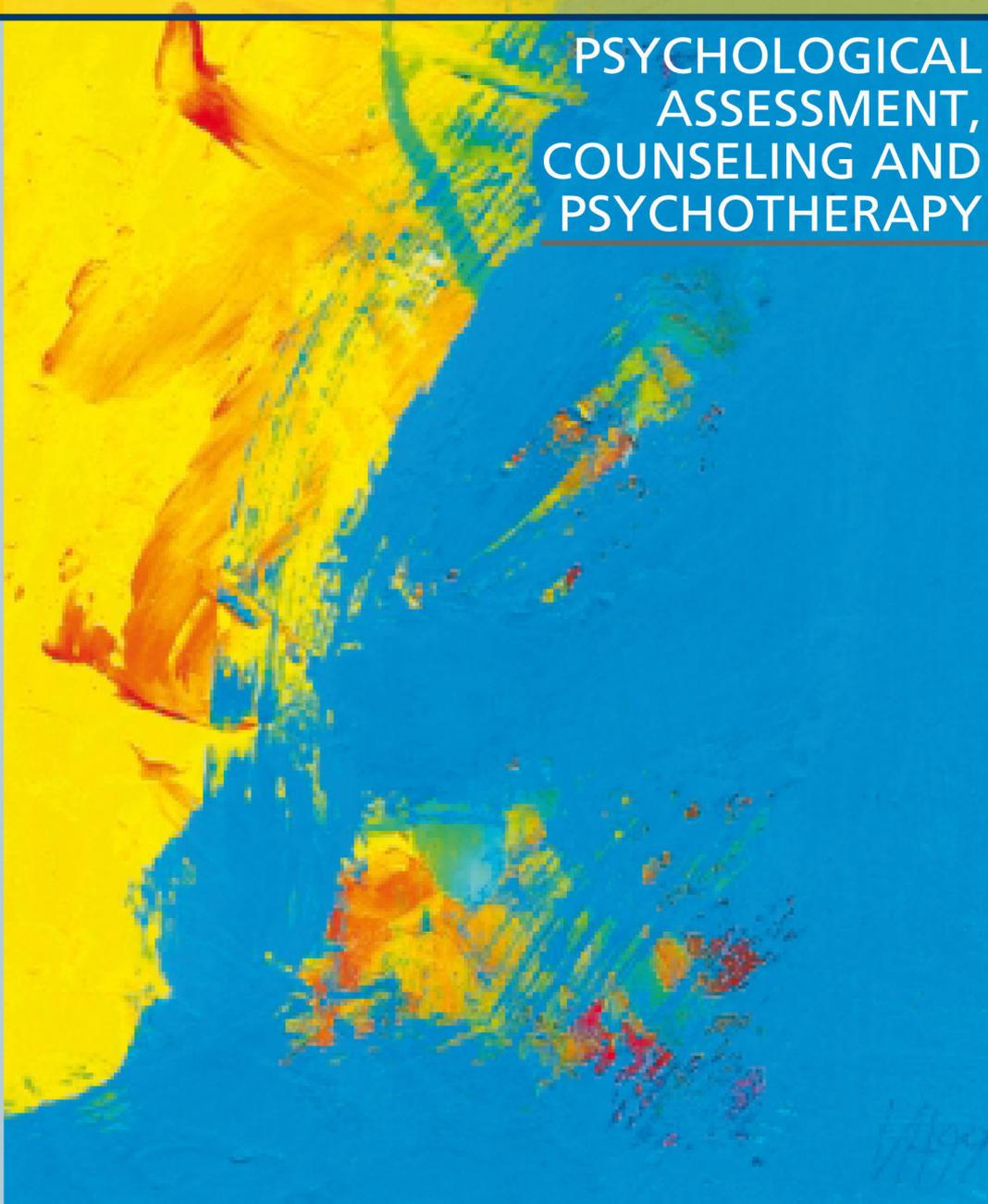


BERNHARD STRAUSS (Editor)

INVOLUNTARY CHILDLESSNESS

PSYCHOLOGICAL
ASSESSMENT,
COUNSELING AND
PSYCHOTHERAPY



Hogrefe & Huber Publishers

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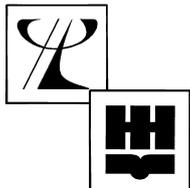
Involuntary Childlessness

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Counseling, and Psychotherapy

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Foreword

Claus Buddeberg

Since the beginning of the 20th century there has been a continual increase in the number of childless marriages in almost all industrial countries. The rise in childlessness can be seen most strikingly in specific cohort surveys: for example, while only 9% of the women born in Germany in 1935 remained childless, in 1958 the number was approximately 23% of the cohort of that year, and appeared to be rising (see Nave-Herz, Onnen-Isemann, & Oßwald, 1996). Social changes, such as the increasing career-orientation, education and qualifications of women, a change in individual lifestyles (consciously planned childlessness), and a wide spectrum of biological reasons for fertility disorders are seen as the main causal factors in the rise of voluntary and involuntary childlessness.

For some time now, the increase in voluntary and involuntary childlessness has preoccupied not just scientists from different disciplines, but also politicians and governments. The German Federal Government stated this in its cabinet report of February 23, 1988: “that reinforced efforts must be undertaken, to pursue the causes of sterility and infertility and to actively prevent them” (see Federal Gazette, 1990, May 1, volume 42, p. 5).

This political initiative induced the Federal Ministry of Research and Technology in December 1989 to assign priority to research in the field of fertility disorders. The emphasis was focused in two areas. The first of these included projects involving biological and basic medical research, in which the pathophysiology and the pathobiology of reproduction, as well as influences of genetic and environmental factors were the focal points. The second area of emphasis included projects aimed at improving the diagnosis and therapy of fertility disorders. In this area, support was provided for studies examining psychosomatic and psychosocial approaches, which had the advancement of diagnostic and therapeutic procedures as their goal.

In this book, the results and recommendations of research projects that deal with the approaches and opportunities of psychological interventions in involuntary childlessness are presented. An introductory chapter reviewing the present state of knowledge of the psychosomatics of fertility disorders is followed by an overview on psychological diagnostics, counseling and therapy in childlessness. The subsequent contribution deals with the opportunities and limitations of the primary medical care of infertile couples. The practical use of this book becomes apparent in this chapter. The authors describe the role of family doctors in the counseling and treatment of

childless couples, who frequently must be referred to specialist doctors or institutions.

In the following chapters, specific approaches to stress management and relationship counseling of involuntarily childless couples are described. It becomes clear that, from a psychosomatic point of view, the various factors that may underlie fertility disorders as well as the stress of long lasting, potentially unsuccessful medical treatment need to be considered. Dealing with the desire for and the fear of having a child as well as hopes and disappointments regarding medical fertility treatment, requires specific knowledge and skills from the therapists. The subjective ideas of the couples regarding possible reasons for their childlessness must be considered, as well as the dynamics of the couples' relationship and their strategies for coping with disappointment. The counseling sessions may focus, among other things, on how to deal with the lengthy medical treatment (sometimes lasting for years), and on coming to terms with the possibility that the desire for a child may remain permanently unfulfilled. In a closing chapter, Bernhard Strauss, the leader of the research team "Counseling and Therapy Studies" and editor of this book, summarizes the most important issues for the transfer of psychological counseling approaches to the practice of reproductive medicine. Finally, the manual for gynecologists in the appendix gives concrete recommendations and guidelines for an integrated treatment of involuntarily childless couples.

As a consultant, I had the opportunity to follow the planning and implementation of the various research projects over a period of nearly ten years. The participating research groups deserve recognition and appreciation for their outstanding scientific work. Acknowledgement should also be given to the numerous patients who have participated in these projects. Hopefully, the important results and practical recommendations of this book will stimulate further interest for doctors and psychotherapists, as well as for the couples concerned.

Fall, 2001

Claus Buddeberg

Preface

The present book is the result of a three-year research activity undertaken between 1994 and 1996, during which various projects were sponsored within the research association “Psychosomatic assessment and counseling/therapy in fertility disorders” of the Federal Ministry for Education, Research, Science and Technology under grant: 01 KY 9303. In 1990, the Ministry announced the promotion of research and development projects in the area of fertility disorders. The research projects with psychosomatic questions were grouped within two associations. The research association entitled “Effects of the stress of diagnosis and medical treatment in the unfulfilled desire for a child”, was coordinated by H. Felder and E. Brähler, and was formed in Gießen, and later in Leipzig. I personally coordinated those research projects which were concerned with primary assessment and intervention-related problems at the Clinic for Psychotherapy and Psychosomatics of the University of Kiel. The individual projects are presented in Table 1.

Essentially, the projects mentioned in the table had comparable structures. For example, in all of the projects, prognostic as well as intervention-related hypotheses were tested. The former dealt primarily with the determination of psychologically distinctive features or risk factors in differently defined groups of sterility patients, i.e., in different treatment settings. In content, the emphases of these diagnostic questions were, among other things, about the aspects of coping with involuntary childlessness, partner interaction, as well as biographical characteristics. Therefore, the individual projects touched on very different but representative fields of infertility treatment, for example, common medical practices, specialized andrological or gynecological infertility consultations.

The intervention-related problems, in terms of this book, were determined to be comparable. The projects differed primarily in the manner of intervention (formal or theoretical), as well as with regard to the targeted groups. The main goal of almost all the subprojects was to make a contribution to the development of psychosocial support in the practice of fertility medicine.

Regarding this book:

Following two overview chapters on psychosomatic research in the area of fertility medicine, and the available knowledge about the tasks, content and effects of psychological counseling for involuntarily childless women, men and couples the essential results of individual projects are presented. Considering that couples first consult their family doctor, the third chapter reports the results of an investigation

Table 1. Overview of the projects of the research association regarding “Psychosomatic Diagnosis and Counseling/Therapy in Fertility Disorders”

Project Title	Location/Director(s)
Psychological diagnosis and intervention in male infertility	Marburg: Prof. I. Florin, Prof. W. Krause, Dr. B. Tuschen-Caffier
Prognostic significance of psychosocial factors for the course of a infertility treatment – development and evaluation of a counseling approach for infertility patients	Kiel: Prof. B. Strauss
Development of a psychosomatic counseling approach for couples with an unfulfilled desire for a child – “Heidelberg Infertility Consultation”	Heidelberg: Prof. R. Verres, Dr. T. Wischmann, Prof. I. Gerhard
Patients with fertility disorders in general practice	Göttingen: Prof. M.M. Kochen, Dr. W. Himmel
Psychological-prognostic criteria for the course of medical infertility treatment – the influence of psychotherapeutic counseling on life satisfaction and fertility of involuntarily childless couples.	Gießen and Münster: Dr. H. Felder, Prof. C. Hölzle
Psychosomatic care approach for infertile Turkish couples	Berlin: Prof. H. Kentenich

from Göttingen in which the status of fertility disorders in general practice is examined in detail. A report follows about the attempt to establish a psychosomatic care approach for childless Turkish couples in a clinic in Berlin. This clinic is characterized by a high number of these couples, and so there is the need for specific access to infertility treatment by Turkish couples.

In the second section, four research projects are presented according to a uniform scheme, in which special intervention models of a psychotherapeutic nature were tested and evaluated within the framework of extensive controlled studies of different groups of patients wishing to conceive.

The goal of these contributions is to present the approaches in a manner which will facilitate their transfer into the practice of reproductive medicine. Problems that are connected with the implementation of research projects in reproductive medicine and with the application of research results in to practice will be discussed briefly in the conclusion. A detailed account of the findings of the projects within the research

group, as well as other work groups concerned with the theme, are found in Brähler, Felder, and Strauss (1999).

From the beginning it was a clear goal of the research groups, and those financing them, to obtain scientific results that would be of practical use. With the compilation of this book, we see this goal as being at least partially realized. Those affected, as well as those active in reproductive medicine and interested in psychosocial factors, will find a wealth of information and specific recommendations in the contributions. However, the transfer of this knowledge to practice must reach gynecologists, who are frequently the first to be confronted with the infertility problem, without having specific knowledge of the psychosocial dimensions of this problem at their disposal. For this purpose, a brief manual for gynecologists was composed, which should inform them of the psychosomatics of infertility and its relevance for the treatment. This manual is reproduced in the appendix of this book.

The third strategy of transferring knowledge to practice is related to a summary of the research results for the affected couples themselves. The members of the research group have tried to present the results in a way which will be understandable for lay people, and have produced an information booklet and a video on the psychosomatic aspects of reproductive medicine, which is available from the Federal Center for Health Education.

All three strategies for the evaluation of intensive scientific work were devised and elaborated within a private meeting of the colleagues of the association, which was held at the beginning of 1997, in Rheinhardtsbrunn in Thüringen. At this meeting the value of the research results and the strategy for their presentation were intensively discussed. Influential in this discussion was Prof. Dr. Irmela Florin, who died in 1998 after a long illness at the age of 60. We thank Irmela Florin greatly for her creative contributions and her humanity in her collaboration on the work within our research association, and so we dedicate this book to her memory.

Jena, Fall 2001

Bernhard Strauss

I.

Introduction to the Subject

Psychological and Psychosomatic Aspects of Involuntary Childlessness: State of Research at the End of the 1990's

Kathrin Henning and Bernhard Strauss

Introduction

Many couples who wish to have a child face a difficult situation when they first realize that they are having problems conceiving. It is usual for most couples to feel isolated, as a fertility disorder appears to be a completely unexpected problem. Nonetheless, it is not an uncommon one; almost one third of all women will discover in the course of their lives, that, after 12 months of unprotected sexual intercourse, conception has not occurred (Helfferich & Küppers-Chinnow, 1996). However, if conception has not taken place within two years of regular, unprotected sexual intercourse, infertility is generally discussed (Strauss, 1991). For a long time, the terms “primary sterility” (when no pregnancy has occurred), and “secondary sterility” (when there has already been a pregnancy) were conceptually distinguished. Infertility, generally, was regarded as occurring when a pregnancy had indeed taken place but could not be carried to full term (Strauss, 1991).¹

Today, it is assumed that numerous interacting factors cause involuntary childlessness. Besides specific organic disorders, unspecific factors are thought to play a part. Analyses of the organic causes of sterility show that 30%–40% are found in men (andrological causes, such as deformities, bacterial infections, and idiopathic male infertility), and up to 50% in women (e.g., ovarian causes; tubal, uterine, cervical, or vaginal disorders). Causes of sterility that affect women and men simultaneously, that is, combinations of the above disorders or immunological causes, are found with a frequency of 10%–40% (Müller, Meyhöfer, Berendt, & Schröder, 1983; Stauber, 1996). The number of cases of infertility, where an organic cause of infertility could not be diagnosed in the woman, the man, or in both partners (so called functional, idiopathic, psychogenic or unexplained sterility – concerning idiopathic fertility, see below), has decreased in the last few years, from about 50% to less than 5% (Leiblum, 1997). This can be attributed to improvements in

¹Today the terms “sterility” and “infertility” as well as “fertility” or “fertility disorders” are synonyms which are frequently used interchangeably, not only in the medical literature (including this book).

diagnostic procedures, which should be able to further limit idiopathic sterility in the future. However, because of this there is a danger that even very minor organic or medical findings will be seen as the deciding cause of sterility, and that the search for possible psychological factors, which may in fact be important causal factors even when organic factors are present, will be limited.

According to frequently cited estimates in the literature, about 10–15% of all couples of childbearing age in Germany are involuntarily childless (Davies-Osterkamp, 1991; Runnebaum & Rabe, 1987; Strauss, 1991). Even if these estimates may be a little high – Goldschmidt, Unger, Seikowski, and Brähler (1997) speak of only 6% of couples remaining permanently involuntarily childless – it becomes clear on the basis of these numbers that the unfulfilled desire for a child represents a problem of considerable magnitude. Although it frequently originates from medical causes, the fertility disorder, and the unfulfilled desire for a child associated with it, manifests itself for those concerned less as a medical problem, but more as a “social symptom” (Knorre, 1991). This represents a large upheaval in the life plans of the affected couples, with far reaching consequences in different areas of life.

According to Stauber (1994), a psychosomatic examination of involuntary childlessness is therefore necessary for various reasons:

- because a couple’s unfulfilled desire for a child frequently represents a difficult life crisis with consequences extending into different areas of life,
- because sterility may be conditioned by psychological factors or be accompanied by psychological conditions, and
- because the diagnostic and therapeutic methods of infertility treatment can be emotionally very stressful.

1 Psychological Characteristics of Infertile Women, Men, and Couples

The literature on psychosomatic aspects of fertility disorders can be roughly divided into two focal areas of research. The research efforts which predominated up to the middle of the 1980s were mainly directed toward the question of psychological causes and the accompanying circumstances of fertility disorders (Greil, 1997). Since then, the presumption has been that personality and stress factors represent the main cause of a fertility disorder in only a few cases. The main focus of research has been displaced by the study of stress as a result of a sterility diagnosis, and the diagnostic and therapeutic procedures (Rösner, 1994).

Initial studies on the possible causes of sterility generally considered female sterility disorders (Frick-Bruder, 1980). Numerous studies, from mostly psychoanalytically orientated authors, indicated that some cases of fertility disorders, especially of functional sterility, are the result of the unconscious resistance of the sterile woman towards pregnancy, birth, and motherhood (see Strauss, 1991). These research efforts were especially criticized in view of the fact that the conclusions

were based mostly on isolated cases, and generalizations were made on the basis of clinical impressions.

The findings of numerous, more recent studies of personality differences between infertile and fertile persons indicate that, generally, there are no personality differences between the two populations. In a prospective study, Vartiainen, Saarikoski, Halonen, and Rimon (1994) tried to identify psychosocial, personality, and stress factors which influence fertility. They found no link between limited fertility and deviant personality factors. Those women who characterized themselves as attractive and well-balanced, described their childhood in a positive way, demonstrated few psychosomatic symptoms, favored a healthy lifestyle, and reported few negative changes in their present life, recorded above average fertility parameters. Many studies even indicated a greater degree of psychological stability in patients with fertility disorders. Grimmig, Jaiser, and Pfründer (1992) found, in the examination of 59 patients attending an infertility consultation ($f = 30$, $m = 29$), few discrepancies between self-image and the ideal self. The patients who desired to have a child did not differ with respect to their body image from the control group of 24 parents and those who were childless by choice. The men of the infertility random sample presented themselves as even more self-assured and attractive than the men of the control group. The authors interpreted these positive self-estimates as an overcompensation for hurt feelings stemming from the infertility. Strauss, Appelt, Bohnet, and Ulrich (1991) examined the psychological characteristics of female patients with different sterility diagnoses. On the whole, the female sterility patients described themselves as less depressive than the normal population, but were clearly more anxious. The patients reported less uncertainty and fewer problems in their physical state than the normal population. Furthermore, they represented their relationships with their partner in a more positive way than those of the comparison population of "happy couples".

Results of other studies suggest that when patients with fertility disorders are compared with other groups of people regarding their overall psychological state (depression, anxiety and self-esteem), they do appear more stressed, but not clinically so (see Davies-Osterkamp, 1991). Nevertheless, Lapane, Zierler, Lasater, and Stein (1995) conceded, on the basis of their research findings, the importance of depression in the pathogenesis of infertility.

Some studies have investigated the psychological characteristics of female patients with different sterility diagnoses. In a study by Strauss, Appelt, Bohnet, and Ulrich (1991) three groups of female patients emerged: patients with idiopathic sterility, latent hypothyroidism, and patients for whom the cause of sterility was diagnosed in the male partner. The first two groups were relatively conspicuous with regard to their emotional state, as well as their coping strategies, relationship, sexuality, and physical state. The third group, on the other hand, did not stand out in comparison to the full random sample.

Psychologically distinctive features were also observed in female patients with endometriosis in a study by Strauss, Didzus, and Speidel (1992). In comparison with the patients with tubal sterility, the patients with endometriosis described themselves as more anxious, and very sensitive to bodily changes. The results of the interview

evaluation suggested a specific gender role conflict in the patients with endometriosis, which expressed itself through a negative experience of menarche and puberty, as well as through earlier gynecological complaints and negative sexual experiences.

Wasser (1994) compared three groups of women: women with an organic sterility diagnosis, women whose infertility was connected with hormonal problems, and women with similar endocrinological disorders who, however, were not interested in conceiving. Both groups of women with endocrinological disorders reported more psychosocial stress than the women with an organic sterility diagnosis. On the basis of these results, Wasser (1994) concluded there was connection between some forms of infertility and psychological stress.

Eckert, Sobeslavsky, and Held (1998) inferred from their results that it does not make sense to compare the psychological characteristics of infertile couples with different diagnoses. In their study, there was a noticeably stronger orientation towards achievement in primary sterile patients and secondary sterile childless female patients. There were no differences found in the coping strategies and relationship characteristics of individual diagnostic groups. Women with idiopathic sterility usually considered themselves more introverted than patients with tubal or multifactorially caused sterility.

Overall, the findings regarding the psychological characteristics of different sterility diagnostic groups did not indicate significant differences between the groups, just as psychological differences in the client group could not be clearly classified, if they are interpreted in terms of the initial cause or the result of the childlessness and the measures connected with it.

2 The Influence of Stress on Fertility

A more recent research approach to the investigation of psychological causes of infertility disorders, which has attracted increased attention, concerns itself with the hypothesis that stress can be a conditional factor in fertility disorders. Originating from the general relationship between stress and health, the supposition suggests that stress can also be a causal factor in fertility disorders (Greil, 1997). Results of some studies examining the personality differences between fertile and infertile persons, suggest that psychological stress is involved in the cause of fertility disorders. A study by Domar, Zuttermeister, Seibel, and Benson (1992) is noteworthy in this context. The 52 infertile women who took part in a ten-week therapeutic behavioral program, which included relaxation training and stress management, reported a decrease in psychological stress. Thirty-two percent of the women became pregnant. As this study did not include a control group, and the women studied were also treated medically, it was premature to assume that the therapeutic behavioral program was responsible for the pregnancy rate of 32%, or that stress was the cause of the infertility. The study by Domar, Zuttermeister, Seibel, and Benson makes it clear however, that it is worthwhile to investigate stress hypotheses further.

Different authors have postulated that stress can affect fertility directly, as well as indirectly. The diagnosis of a fertility disorder or its medical treatment can trigger or intensify stress, and consequently, for example, hinder ovulation, sperm production, or embryo implantation (Greil, 1997; Kedem, Bartoov, Mikulincer, and Shkolnik, 1992). Demyttenaere, Nijs, Evers-Kiebooms, and Koninckx (1991), in a study of 40 women who took part in a program of IVF, established relationships between coping strategies and their effectiveness with changes in prolactin and cortisol levels. Pronounced endocrinological stress reactions were observed in women with ineffective coping strategies. It was assumed that these individual stress-induced endocrinological reactions hindered the production of oocytes and the embryo implantation during IVF treatment, and therefore had an adverse effect on the pregnancy rates.

The results of Schenker, Meirou, and Schenker (1992) also support the stress hypothesis. They assumed that stress, in some cases, directly caused infertility, but more frequently resulted from it. The changes in daily life during the fertility diagnosis and treatment, the social pressure, the feeling that time is running out, as well as the feeling of having no control over the situation, determines the infertility-specific experience of stress. The body reacts to these stressful situations through the distribution of stress hormones that prepare the body for the management of demands, but which, in turn, interact with hormones that directly affect the reproductive system (for example, causing menstrual cycle disorders in women). Schenker et al. (1992) assumed that an increased prolactin level is an important physiological mediator between stress and female infertility.

Stauber (1993) found relationships between psychological stress and spermogram quality. Professional and private stress affected sperm density, as well as motility and morphology. Additionally, psychosocial stress relating to medical reproductive treatment appears to have an effect on sperm quality. Harrison, Callan, and Hennessey (1987) determined in a study of 500 men in an IVF program that sperm quality decreased during the treatment cycle.

The results of a study by Boivin and Takefman (1995) stated that stress is a result and not a cause of fertility disorders. With regard to the daily stress experienced by the women studied in an IVF program, the women who did not become pregnant reported more intense stress during the IVF treatment. However, these differences in the experience of stress first appeared in a retrospective evaluation, after the women were given an unfavorable prognosis for the course of their IVF cycle. In previous daily stress evaluations during the IVF cycle, there were no recognizable differences between the two groups.

Greil (1997) summarized in an overview of the relationship between fertility disorders and psychological stress, that, generally, it appears to make more sense, from an interactive model, to consider psychosocial stress a cause as well as a result of fertility disorders (see also the model contributed by Strauss et al. in this book).

3 Psychosocial Stresses Connected with a Fertility Disorder

The premise of most current studies is the assumption that fertility disorders primarily induce psychosocial stress and do not necessarily result from it.

In qualitative research exploring the psychological effects of infertility, where information about the experiences of involuntarily childless women and men was mainly gathered from semi-structured interviews, the experience of fertility disorders was found to be an especially stressful experience for women (Fränznick & Wieners, 1996; Lang, 1994; Winkler, 1994).

Based on these research results, numerous controlled studies using quantitative methods have attempted to test the hypothesis that fertility disorders cause psychosocial stress. Some studies used standardized measures to test to what degree persons with fertility disorders differ from the population norm on specific psychological variables. In other studies, fertile control groups were consulted for comparison.

Even when taking into account the results of studies examining the existence of psychopathologies in persons with fertility disorders, and that there is not a higher prevalence of psychological disorders in this population, this does not mean that people with fertility disorders do not experience particular psychological stress. As an example, Freeman, Boxer, Rickels, Tureck, and Mastroianni (1985) found no deviant values on the Minnesota Multiphasic Personality Inventory (MMPI) for the women studied in IVF programs. However, 48% of these women reported that they saw infertility as the worst experience of their lives. Downey et al. (1989) also noticed in a study that the subjective stress evaluation of female patients with a desire for children did not concur with the questionnaire results. Therefore, no significant differences were found between the 59 female patients wishing to conceive and the 35 gynecological patients in the control group with regard to partner satisfaction, sexual behavior, self-esteem, as well as depression (although in the interview 75% of the patients wishing to conceive reported that psychologically they felt very stressed due to the fertility disorder).

The majority of studies, in which standardized measures were used to evaluate the stress experienced, showed either that infertile couples deviated insignificantly from the norm values, or that they showed deviating values on some subscales, especially those related to depression.

Domar, Broome, Zuttermeister, Seibel, and Friedman (1992) emphasized the necessity of psychological interventions for women with long term fertility disorders and a definitive sterility diagnosis. The infertile women in the study, especially those in whom a cause of fertility disorder could be diagnosed, reported significantly higher depression values in comparison with a fertile control group. With the increasing length of the fertility disorder, this difference became even more marked.

The results of a study by Downey and McKinney (1992) reflect the present contradictory research findings. They found that 118 infertile women showed no higher scores on the depression scale of the Brief Symptom Inventory (BSI) than the 83 volunteers of the control group. The scores of both groups however, exceeded the

published norm values. While the infertile women and the control group had similar histories of depression, the infertile women currently experienced more depressive episodes. Downey and McKinney (1992) characterized their infertile random sample as “burdened, but not impaired”.

Koropatnick, Daniluk, and Pattinson (1993) identified a risk group among couples with fertility disorders, who were characterized by a more mature age, rather low self-confidence, and an undifferentiated gender role identity. These characteristics were accompanied by high emotional stress due to the fertility disorder, which expressed itself in heightened anxiety. Presumably, parenthood has an important meaning for these couples in terms of identity development, so that they experience the unfulfilled desire for children as especially threatening, because it denies them the possibility for self-definition through a child. Conversely, the least stressed were those couples who were younger (between 32 and 35 years), judged themselves positively, reported an internal feeling of control, and lived under better socio-economic circumstances. On the whole, a more mature age was accompanied by better coping strategies and less felt stress. However, higher levels of anxiety and insecurity were provoked when the anticipation of the biological limits of fertility due to age became more important.

In relation to the question whether the psychological stress experienced will be affected by a specific diagnosis, Koropatnick et al. (1993) established that the stress experienced by infertile couples remains unaffected during an early period of medical diagnoses and treatments. This was the case whether the fertility disorder was diagnosed in the man, the woman or in both partners, or if the cause remained unclear. Bernt, Bernt, and Tacke (1992) also found no differences between women with functional sterility and those with tubal sterility, with regard to the stress experienced and the coping strategies needed. Similarly, there were no clear differences in the stress experienced by patients with primary or secondary sterility (Domar, Broome, Zuttermeister, Seibel, & Friedman, 1992; Ulbrich, Coyle, & Llabre, 1990).

4 Psychological Stress in the Context of Reproductive Medical Treatments

With the further development of new reproductive medical treatment methods, an increased interest in psychosomatic research has been directed towards involuntarily childless men, women and couples who pursue such treatments. The research endeavors in this area have included the study of the stress experienced due to a sterility treatment, including factors such as psychological well-being, relationship and sexuality, the effectiveness of applied coping strategies, as well as the search for psychological predictors in the realization of a pregnancy. The majority of these projects, as is true of other studies examining psychosomatic aspects in fertility disorders, were oriented towards women, men or couples who consulted a clinic

specializing in fertility disorders. Of these participants, those who were seeking IVF treatment were over-represented.

Frequently the waiting period for the next potential treatment success in an IVF program will be felt by patients as more unpleasant than the medical treatment itself, for example, laparoscopy, and daily blood collection (Hölzle, 1990; Kentenich, Hölzle, Schmiady & Stauber, 1987; Laffont & Edelmann, 1994b). In a study by Kentenich et al. (1987), for 62% of couples the wait after the embryo transfer until the end of the cycle, and for 56% of the couples the wait to see if a fertilization had occurred, were strong psychological stressors. For 88% of the couples the occurrence of menstruation and the consequent failure of the treatment was the most stressful event during this treatment. In addition, 41% of couples experienced difficulties in the workplace due to the secrecy involved with the fertility disorder, with the treatment itself, and with frequent absences due to treatment appointments. Twelve percent of couples reported sexual problems, and only 16% of the couples studied went through the entire treatment without problems.

Strauss, Argiriou, Buck, and Mettler (1991) also reported similar results about the stress experienced during IVF treatment. The reactions of the female patients to an unsuccessful IVF attempt were described in 4 categories:

- Depression, disappointment, feelings of guilt
- Massive emotional stress
- Mixture of hope and confidence, as well as anxiety and depression
- Positive, optimistic reactions or relief

Female patients attempted to manage this treatment failure with the immediate renewal of treatment, distraction through work, social withdrawal, substitute satisfaction through consumption, as well as through the search for solace in the relationship.

The fact that these treatment failures are difficult for patients to accept has been confirmed by further studies. Newton, Hearn, and Yupze (1990), as well as Beaurepaire, Jones, Thiering, Saunders, and Tennant (1994) observed that directly after the first unsuccessful IVF attempt, men, as well as women, especially those without children, reacted with a heightened situative anxiety and depression. The extent of this observed stress increased with the number and frequency of different treatments that were unsuccessful (Abbey, Halman, and Andrews, 1992; Beaurepaire et al., 1994).

The results gathered by Slade, Raval, Buck, and Lieberman (1992) in a longitudinal study, also showed increasing psychological stress in men diagnosed with infertility with the increasing length of treatment. In a follow up study three years later, these men were characterized by low self-esteem and heightened depression.

A study by Schilling, Küchenhoff, Könnecke, and Tilgen (1996) showed that alongside the andrological findings, the strength of the desire for a child also had a deciding influence on the management of the unfulfilled desire. No tendency was found in these men to misinterpret their medical data in order to defend themselves

against negative feelings and protect their self-esteem. However, the low self-esteem of patients with long-term infertility limited their acceptance of alternatives to a biological child, for example, adoption.

A study of couples in an IVF program by Edelman, Connolly, and Bartlett (1994) could not verify that a person in treatment with a long-term fertility disorder had psychologically distinctive features. The authors related the emotional stability of their random sample to the effects of self-selection. They assumed that only those couples who took advantage of an IVF treatment felt that they were able to cope with the emotional strains connected with it. On the basis of the number of complaints and conspicuous behavioral features, Bernt and Bernt (1991) also found no clinically relevant features in patients who underwent an IVF treatment. Concerning characteristics of the relationship, the women of the IVF group described themselves as dominant over their partner, inclined to mood instability, and to a depressive assimilation of emotional experience, in comparison to their more stable, optimistic partners.

Similarly, the IVF couples studied by Eckert et al. (1998) described themselves as emotionally stable. In both partners however, a heightened need for social support was seen as a reaction to the stress situation. The strong achievement orientation of the women in comparison to their partners, and to the normal population, was also noteworthy. They reacted strongly by blaming themselves for the fertility disorder and tried to validate themselves in other areas. Expectations of success in the IVF treatment were unrealistically high in 64% of the couples, and were accompanied by a strict rejection of adoption as an alternative possibility, especially by the men.

In a longitudinal study conducted by Connolly, Edelman, Cooke, and Robson (1992), no psychologically distinctive features could be identified in the 116 couples who consulted a reproductive medical institution. In a follow-up study, seven to nine months after treatment, changes in depression values and relationship satisfaction were not detectable. The level of anxiety felt by the couples, measured with the State Trait Anxiety Inventory (STAI), decreased between the first and second time points. The authors related the higher anxiety scores at the first point of measurement to situational anxiety felt in medical investigations. However, the men, in whom a fertility disorder was diagnosed, were an exception, reporting higher anxiety at the second measurement point than at the beginning of the study.

The results of a longitudinal study by Glover, Gannon, Sherr, and Abel (1996) suggest that the stress experienced by infertile men is expressed more through heightened anxiety and insecurity than through depression. Glover et al. (1996) studied the manner of the stress, changes in the stress experienced over time, and the correlation between the beginning and ongoing stress experienced by men who attended a specialist clinic for male fertility disorders. The men were tested at the first clinic visit, 6 weeks later, and after 18 months. The men with the fertility disorders were significantly more anxious in comparison to a normal population, blamed themselves for the fertility disorder, and felt threatened in their masculinity, and restricted by the involuntary childlessness in their life satisfaction. Their psychological well-being, life satisfaction and self-accusatory tendencies did not change after 6 weeks or 18 months. The authors suspected a relationship with the

first clinic visit for the initially high level of stress experienced. The high level of stress at 6 weeks or 18 months after the first measurement suggested that the fertility disorder represented a threat for these men, which could not just be attributed to the insecurity of the first visit to the clinic, or to uncertainty over the diagnosis and the imminent treatment. Certainly, it must be noted that the men questioned after 18 months were those who were also making a further effort concerning the treatment of their fertility disorder. Two areas were identified as anxiety-provoking for the infertile men: the threat to their self-image, and the anticipation of possible psychological harm to their partners.

The results of a study by Hynes, Callan, Terry, and Gallois (1992) clarifies the importance of observing the time dimensions of stress experienced in fertility disorders and their treatment. They interviewed 100 women attending an IVF program, at intervals of 6 weeks. In the first survey, at the beginning of the IVF treatment, there were no distinctive features recorded in the patients relating to depression and self-esteem. At the second measurement point, after the IVF women realized that their attempt at treatment was not successful, they reacted with heightened depression and lower self-esteem. Later on, problem-centered coping behavior, in contrast to avoidant coping, and the search for social support were accompanied by an increased sense of well-being. The experience of infertility was strikingly described as a “roller coaster of hopes and ensuing disappointments”.

Attempts have been made to identify psychological characteristics that would predict a successful pregnancy in reproductive medical treatment. Strauss, Appelt, Bohnet and Ulrich (1992) determined a link between the frequency of psychologically distinctive features at the beginning of a sterility treatment, and a lower pregnancy rate after two years. A later study could only partially replicate this finding (Strauss, Hepp, Stading, and Mettler, 1998).

From the premise, that psychological stress can affect the physiological processes of conception, Schover, Greenhalgh, Richards, and Collins (1994) studied 120 couples who had decided on a heterologous insemination. They were not able to establish a connection between psychological variables and treatment results. A higher rate of pregnancy was only recorded in younger women.

In a prospective study by Stoleru, Teglas, Fermanian, and Spira (1993), significantly more pregnancies had occurred after one year in the group of women, with more positive expectations of motherhood preceding the removal of contraception.

Until recently, little was known about the needs and life satisfaction of women, men and couples who have unsuccessfully tried to conceive. Daniluk (1996) interviewed 37 involuntarily childless women aged between 25 and 44 years, who had recently given up trying to have a biological child. Overall, she identified 9 themes that paraphrase the experiences and needs of these infertile women in their transition to biological childlessness and reorientation:

- The feeling of futility with regard to a further search for a solution to her infertility
- The feeling of physical, emotional, and spiritual exhaustion