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Summary
Based on a review covering 80 research papers selected from a larger material on effect of non-pharmacological treatment of sexual problems, treatment methods and techniques for common sexual problems are presented and the treatment effects are discussed in relation to the specific problem. Treatment methods are organised according to different groups: Psychodynamic, hypnosis, behavioural, cognitive, cognitive-behavioural, educational, marital, group therapy, sex therapy and bibliotherapy. Treatment methods and techniques within each group are described and studies within each group are presented. The results show positive effect for most approaches, but to varying degree. Therapy that focuses on the sexual problem is more effective than indirect treatment of underlying problems like anxiety or communication problems. The PLISSIT-model is recommended to differentiate between problems that can be solved through simple education or bibliotherapy with minimal therapist intervention, and problems that require specialist therapeutic assistance. Therapy research that focuses on linear relationships between problem and therapy method seem to give way to circular research designs that take more variables, like therapist characteristics, client characteristics, treatment format, and treatment content into account. The bio-psycho-social model is recommended as an integrative multidisciplinary approach to treatment of sexual problems.

Introduction

William Masters and Virginia Johnson (1970) set a standard for treatment of sexual problems when they published Human Sexual Inadequacy. Many years have passed, and it is reasonable that new therapeutic methods and techniques must have been introduced. Based on a systematic review of randomized controlled studies carried out by the National Knowledge Centre for the Health Services in Norway, we were able to look into actual therapeutic methods that are used in current therapeutic practice.
The Norwegian Knowledge Centre for Health Service was commissioned in 2006 by the Health Directorate to summarize the available research-based knowledge about the effects of counselling for sexual problems. The basic premises for the literature search were non-pharmacological studies. Included were studies on sexual problems in men, women, and couples, sexual problems in relation to chronic disease, abuse, handicaps, problems in relation to sexual or gender identity, and sexual problems in sexual offenders. The following databases were searched: Cochrane Library, Medline, Embase, CINAHL, PsycINFO and Svedem. 2805 unique articles were identified, and 320 articles were retrieved in full-text. These included 22 systematic reviews, covering 516 primary studies, and 34 randomized controlled studies. The study was done between 2006 and 2008. Based on this material, studies that included common sexual problems in men, women, and couples were selected for this review. The result was four systematic reviews covering 63 studies, and 17 randomized controlled studies, a total of 80 papers. These papers were organized according to treatment approach and discussed as follows: Unspecified psychological approaches, which are based on an analysis of the clients' problems and needs, and competence in using hypnosis. Three of these studies report successful outcomes.

The use of hypnosis as a diagnostic tool appears to be based on the assumption that it can provide access to otherwise unavailable material. Despite the large number of cases of sexual dysfunction treated with hypnosis, we know very little about the efficacy of hypnosis in the treatment of sexual dysfunction (Andersen, 1983; Brown and Chaves, 1980). Gilmore (1987) argues in favour of Milton H. Erickson's approaches in hypnosis. Through careful evaluation of each client's problems and needs, and competence in using hypnosis, this method can be used by the right therapist for the right client, in the right situation, for the right problem.

**Unspecified psychological approaches**

The history of psychological treatment methods in the 20th century follows three lines:

- the psychodynamic, including psychoanalysis;
- the behavioural, including cognitive methods;
- the humanistic, including the existential and gestalt theories and therapeutic approaches.

The psychodynamic line has developed into “self-psychology”, the behavioural tradition has developed into a “cognitive branch”, with strong focus on evidence based treatment, and “systemic (including narrative) therapy”.

**Studies on psychological treatment**

In this review, studies on psychological approaches are relatively recent, published between 1992 and 2008. The heterogeneity of the papers illustrates the somewhat imprecise use of the word “psychological”, it has a range of denotations, from a specific psychological treatment method, to simply the fact that the therapist (doctor) is talking to a client.

Ravart and Cote (1992) argues that sexual problems have become more complex, and need more sophisticated psychotherapeutic methods.

An overview of psychodynamic approaches to sexual problems concludes that “Psychotherapy alone may only be necessary in a few selected cases” (Devan, 1995).

A randomized controlled study on the potential benefit of “vacuum devices” on “psychosexual therapy” for erectile dysfunction indicated that the best effect came from vacuum erectile device in combination with psychotherapy (Wylie et al., 2003).

A systematic review of effectiveness of psychological interventions for the treatment or erectile dysfunction found evidence that focused sex group therapy improves erectile dysfunctions (Melnik et al., 2008).

**Studies on hypnosis**

Hypnotherapists have been optimistic in their view that hypnosis could be an affective tool in alleviating sexual problems. In a study on treatment of psychogenic female sexual dysfunctions, Sotile and Kilmann (1977) include four studies that use hypnosis. Three of these studies report successful outcomes.

**Behavioural therapy**

Behavioural therapy is based on the idea that behaviour is learned through reinforcement, and that behaviour can be modified by changing the reinforcing agents.

Many techniques that are used in treatment of sexual problems are based on learning theory and methods from behavioural therapy, but are often integrated in other approaches, among others in sex therapy. We will present behavioural methods that have been discussed in our material.

**Assertion training**

It is demonstrated that being more assertive will improve sexual performance and sexual satisfaction (Munjack et al., 1976).

**Behavioural analysis**

Behavioural therapy is based on changing reinforcement systems, and must therefore be based on an analysis of the behaviour (Munjack et al., 1976).

**Behavioural rehearsal**

The client learns and rehearses behaviour through homework exercises (McMullen and Rosen, 1979; Munjack et al., 1976).
Behavioural sex therapy

Behavioural sex therapy rests on the theory that once organic causes have been ruled out, sexual difficulties are the result of a combination of factors that are amendable to change through relatively brief intervention. Behavioural treatment attempts to alleviate sexual difficulties through a combination of techniques, including education, communication skills training, and sensate focus exercises (Sarwer and Durlak, 1997).

Direct education

In order to introduce new behaviour, lectures, videos, pictures, plastic models, etc. can be used (Cooper, 1970; Masters and Johnson, 1970).

History taking

History taking is an anamnestic tool. In sexological practice history taking can be limited to the "sexual history", or to the story of the "sexual problem". It is an important basis for behavioural analysis (Munjack et al., 1976).

Modelling

This is a technique that can introduce models through films, or in group therapies the clients are models for each other.

Psycho-educational programme

Educational programs can include masturbation exercises, instruction in sensate focus, stop-start and squeeze techniques, sensory awareness, discussion and correction of misconceptions regarding relationships and sexuality, practicing disclosing fears about sexual inadequacy (Lobitz and Baker, 1979).

Relaxation therapy

Relaxation therapy is based on a behavioural analysis, where the anxiety level in specific situations is described. The goal is to reduce anxiety in the situation. Clients may be given a relaxation tape or video and then be asked to visualize themselves in an anxiety provoking situation (Nemetz et al., 1978).

Social skills training

This kind of training is well suited for group therapies, where the participants can exercise new social skills with each other, and get feedback from a supporting group (Stravynski et al., 1997).

Systematic desensitization treatment

Systematic desensitization is a behaviour therapy technique in which relaxation is used to reduce the anxiety associated with certain situations (Paul and Shannon, 1966; Rimm and Masters, 1987; Wolpe and Lazarus, 1966). It is based on a standard systematic desensitisation procedure (Wolpe, 1958). The approach is based on the idea that gradual exposure to a stimulus that evoke unpleasant reactions like anxiety or fear, will gradually weaken the unpleasant response. In sexual phobias, the subject is step by step brought closer to the feared situation (Andersen, 1981; Andersen, 1983; Auerbach and Kilmann, 1977; Everaerd and Dekker, 1982; Kockott et al., 1975; Mathews et al., 1976; Munjack et al., 1976; O’Gorman, 1978; Sotile and Kilmann, 1977; Sotile and Kilmann, 1978).

Studies on behavioural therapy

The most widely used behavioural method is systematic desensitization, which has been used particularly in the treatment of orgasmic dysfunctions in females, probably because orgasmic problems have been accompanied by anxiety or aversion toward sexuality. The results show significant increase in orgasm, but also in general satisfaction with the relationship (Munjack et al., 1976; Sotile and Kilmann, 1978) and sexual self-acceptance and increasing sexual pleasure (Andersen, 1981). Systematic desensitization is effective in cases where sexual anxiety contributes to orgasmic dysfunction, while masturbation training is the treatment of choice for primary orgasmic dysfunction (Andersen, 1983; Sotile and Kilmann, 1978).

Relaxation training has been used in the treatment of debilitating sexual anxiety in women. Decreases in anxiety and increases in behavioural and attitudinal measures were evidenced, however, a trend toward greater improvement was observed for those receiving group treatment (Nemetz et al., 1978). This finding is supported by a study on individual desensitization with frigidity (different problems) in women (O’Gorman, 1978). Although an increased incidence of orgasm tended to be a personal goal for most of the clients, it is not always affected by treatment (Nemetz et al., 1978). Findings have supported the external validity of behavioural sex therapy and results indicate that behavioural sex therapy also is effective in real-world clinical settings (Sarwer and Durlak, 1997).

Cognitive therapy

Cognitive therapy is based on the theory of Aaron Beck (Beck, 1987) who concluded that the way in which clients perceived, interpreted and attributed meaning in their daily lives — a process scientifically known as cognition, was a key to therapy. There were no studies found under the label “cognitive therapy” in this review.

Cognitive behavioural therapy

Cognitive behaviour therapy (CBT) was primarily developed through a merging of "behaviour therapy" with "cognitive therapy". While rooted in rather different theories, these two traditions found common ground in focusing on the "here and now", and on alleviating symptoms. A number of cognitive-behavioural therapies guided by manuals have been designed. Key elements of the model are psycho-education and cognitive intervention, sexual and...
performance anxiety reduction, script assessment and modification, conflict resolution, relationship enhancement, and relapse prevention training.

Studies of cognitive behavioural therapy

In the treatment of erectile failure with rational emotive therapy (RET), Munjack et al. (1984) found that the group that received RET experienced a significant reduction in sexual anxiety, made significantly more attempts at intercourse and experienced a significantly higher number of successful intercourse attempts.

Linda Banner (2000) compared sildenafil to CBT in a group format. A large number of couples from both groups showed improvement in erectile functioning after 8 weeks of treatment. A new study (Banner and Anderson, 2007) used ITP in treatment of erectile failure, and the results were again good, but not significant.

A study on the effect of CBT of women's body-image dissatisfaction found that clients made significant gains on the multiple measures of the presenting target complaints. Treatment enhanced client's social self-esteem, improved their sexual interest and feelings, and promoted more positive evaluation of physical fitness (Butters and Cash, 1987).

Studies on treatment of hypoactive sexual disorder showed good results (Ravart et al., 1996; Trudel et al., 2001).

Marital and communication training

The purpose of marital therapy is to foster positive communication techniques regarding sexual interaction. Treatment can include setting up appointment to discuss conflicts, stating requests of partners in specific, operational terms, meditation on partner request to inhibit the tendency for verbal attack, giving and accepting feedback about verbal and nonverbal messages, and dealing with emotional hurts. Role-play and homework assignments can be given, including discussion of sexual references and taking responsibility for initiation of sex play. In essence, couples are taught how to communicate their thoughts and feelings in constructive ways (Kilmann et al., 1978; Kilmann et al., 1986a, 1986b; LoPiccolo and Miller, 1975; Masters and Johnson, 1970; Sarwer and Durlak, 1997; Trudel and Proulx, 1987; Zeiss, 1978).

D. Zimmer (1987) found that marital therapy enhances the effectiveness of treatment for sexual dysfunction.

MacPhee et al. (1995) found that emotionally focused therapy (EFT) for Couples resulted in modest treatment and control group differences after treatment. Females treated with EFT made significant gains on one measure of sexual desire and a lower level of depression.

Group therapy

Group therapy can be used as a method in itself, or as a format using other therapeutic approaches that are described elsewhere. This section includes studies where group dynamics are used as a method, which seems to be particularly effective for women with orgasm problems.

Studies on group therapy

Group treatment as the primary mode of therapy for orgasmic dysfunctional women has been justified on several grounds (Barbach, 1974; Barbach and Flaherty, 1980; Kuriansky et al., 1982; Leiblum and Ersner-Hershfield, 1977; Schneiderman and McGuire, 1976). The percentage of women who experienced orgasm via couple activities appears to be better than for other group treatment evaluations (Ersner-Hershfield and Kopel, 1979).

Couples who reported a better relationship adjustment prior to treatment reported a significant greater gain in total sexual harmony than did less adjusted couples (Kilmann et al., 1987).

A review of treatments of psychogenic female sexual dysfunctions concluded that the overall effect of group treatment on female sexual responsiveness remains to be demonstrated (Sotile and Kilmann, 1977).

From the studies on group treatment of psychogenic erectile dysfunction, the results are positive (Kilmann et al., 1987; Price, 1981). Stravynski et al. (1997) found that paying attention to the patients' interpersonal difficulties resulted in significantly better outcomes than the approach that concentrated on problems in sexual functioning alone.

A comparative study of three therapeutic approaches to psychogenic erectile dysfunction suggest that time-limited theme-based group psychotherapy is an effective treatment for psychogenic erectile dysfunctions (Melnik and Abdo, 2005).

Educational interventions

Education has been used as a complement to other approaches, but has also been used as the main intervention in some studies.

Studies on educational approaches

Two studies showed positive effect of education on orgasm capacity (Kilmann et al., 1983; Milan et al., 1988).

Participants in a study on educational intervention as an adjunct to treatment of erectile dysfunction in older couples reported significant increases in knowledge levels and in sexual satisfaction (Goldman and Carroll, 1990).

Kermeeen (1995) found that a prenatal education program that included training in communication, enhancement of relationship, and issues of emotional style as well as education and discussions focused on gender differences and issues related to family of origin scored significantly better than traditional programs on the Sexual Relationship Scale.

Sex therapy

The main difference between sex therapy and other approaches are:

- that sex therapy addresses the sexual problems as a symptom in itself;
- and that sex therapy includes all relevant methods that can be of use for the client, psychological, phar-
macological, educational or surgical methods and techniques.

We will in the following describe the different techniques that have been described in the studies included in the present review.

**Anterior fornix erogenous (AFE) zone stimulation**

AFE zone stimulation focuses on the stimulation of an erogenous centre in the inner half of the anterior wall of the vagina. Stimulation results in rapid onset of reflex vaginal lubrication and build-up of erotic sensitivity, culminating in orgasm in some cases (Chua, 1997).

**Coital alignment technique**

Penile-vaginal penetration in coitus with clitoral contact completes a basic genital ‘circuitry’ and constitutes complete genital contact (Eichel et al., 1988; Hurlbert and Apt, 1995).

**Directed masturbation**

LoPiccolo and Lobitz (1972) have described a nine-step masturbation training procedure that has been widely used (Andersen, 1981; Andersen, 1983; Hurlbert and Apt, 1995; LoPiccolo and Stock, 1986; Munjack et al., 1976; Riley and Riley, 1978; Trudel and Laurin, 1988).

**Kegel exercises**

The aim of the Kegel exercises is to improve muscle tone by strengthening the pubococcygeus (PC) muscles of the pelvic floor. A Kegel exerciser is a medical device that is designed to be used by women to exercise the PC muscle (Blakenly et al., 1976; Kegel, 1952; Sotile and Kilmann, 1977).

**Masters and Johnson sex therapy programme/ Modified Masters and Johnson therapy**

Masters and Johnson’s sex therapy is a combination of behavioural, psychodynamic, educational, counselling, cognitive therapy and communication training.

In Masters and Johnson’s clinic clients were seen every day for 2 weeks, and given homework that was practiced daily (Masters and Johnson, 1970).

The modified Masters and Johnson approach is used in a number of studies. Usually the modifications include weekly or fortnightly sessions with one or two therapists (Ansari, 1976; Bancroft and Coles, 1976; Baum et al., 2000; Blakenly et al., 1976; Clement and Schmidt, 1983; Dow and Gallagher, 1989; Everaerd and Dekker, 1981; Everaerd and Dekker, 1982; Hartman, 1983a, 1983b; Hawton, 1995; Hawton and Catalan, 1986; Heiman and LoPiccolo, 1983; Kockott et al., 1975; Libman et al., 1984; Lowe and Mikulas, 1975; Mathews et al., 1976; Whitehead et al., 1987).

**New functional-sexological treatment**

The new functional-sexological treatment is implemented according to the principles of the sexocorporal approach developed by de Carufel and Desjardins (de Carufel, 1990; de Carufel and Trudel, 2006; De Sutter et al., 2002; Desjardins, 1986).

The treatment is based on the following premises and rationale.

Ejaculation is a reflex that cannot be controlled voluntarily (neither the emission reflex nor the expulsion reflex). The reflex is triggered when sexual excitement reaches a sufficient level of intensity, and does not occur when sexual excitement is kept below the level that causes ejaculation. The course of sexual excitement can be controlled voluntarily (Carr and Sutter, 2001).

**Orgasm consistency training (OCT)**

OCT uses directed masturbation in the early stages of treatment. In the final stage the ‘coital alignment technique’ opens the possibility of a level of experience in which partners are interdependent in the attainment of coital orgasm (Hurlbert and Apt, 1995).

**Sensate focus**

Sensate focus incorporates elements of desensitization and behavioural therapy. Basically it is a homework assignment for couples, based on sensually exploration and caressing of each other’s bodies. Sensate Focus I includes non-genital caressing. Sensate Focus II includes genital caressing (Andersen, 1983; Fichten et al., 1983; Lowe and Mikulas, 1975; Masters and Johnson, 1970; Sarwer and Durlak, 1997; Trudel and Proulx, 1987; Zeiss, 1978).

**Sex history**

Sex history can be taken through interviews or by letting the clients write letters to the therapists. The histories are usually discussed individually, and it is agreed what part of the history should be subject for the dual sessions (Blakenly et al., 1976).

**Sexological examination**

Sexological examination includes a description of the problem as experienced by the client, and a clarification of the problem as understood by the therapist. Examination also includes medical examinations and in some cases examinations by physiotherapists (Blakenly et al., 1976).

**Sexological interview**

There may be an initial interview where the couple and both therapists participate, and then individual interviews with one of the therapists with each part of the couple (Blakenly et al., 1976; Masters and Johnson, 1970).
Start-stop

The penis is stimulated extra-vaginally until the man feels premonitory sensations of ejaculation. Stimulation is then discontinued until the sensations subside. This procedure is continued until penile stimulation can be tolerated for longer periods of time without ejaculation (de Carufel and Trudel, 2006; LoPiccolo, 1985; Masters and Johnson, 1970; Semans, 1956; Trudel and Proulx, 1987; Zeiss, 1978).

Squeeze technique

When the male signals oncoming ejaculation, the female squeezes around the coronal ridge of the penis in a way that is not painful but stops the urge to ejaculate. Stimulation plus squeeze is continued until the male has fairly good extra-vaginal control (Blakenly et al., 1976; LoPiccolo, 1985; Lowe and Mikulas, 1975; Masters and Johnson, 1970; Trudel and Proulx, 1987, Zeiss, 1978).

Sexual skills training

The purpose is to promote sexual skills that enhance sexual functioning (Barbach, 1974; Hartman and Fithian, 1972; Hartman and Fithian, 1974; Kilmann et al., 1986a, 1986b; LoPiccolo and Lobitz, 1972; LoPiccolo and Miller, 1975).

Sexological counselling

Sexological counselling addresses the three first levels in the PLISSIT-model: permission, limited information and specific suggestions (Annon, 1975; Annon and Robinson, 1976; Mathews et al., 1976; van der Windt et al., 2002).

Studies on sex therapy

Sexual dysfunctions, not specified

Masters and Johnson (1970) sex therapy approach for couples with sexual dysfunctions has been reported to have very satisfactory results, with nearly two thirds of couples deriving significant benefits from treatment. These results are supported by other studies (Ansari, 1976; Bacot, 1989; Bancroft and Coles, 1976; Blakenly et al., 1976; Hawton, 1995, Heiman and LoPiccolo, 1983; Kockott et al., 1975; Mathews, 1983; Szeoke and Dennerstein, 2002).

Mathews et al. (1976) suggested that the combination of directed practice and counselling was associated with most change, particularly when two therapists were involved.

Clement and Schmidt (1983) concluded that the success of couple therapy is rather independent of the format. Recommendations are made for a differential indication for different formats.

The outcome of daily versus weekly treatment has not been found to be generally different (Heiman and LoPiccolo, 1983).

Attempts to ferret out the causal impact of marital happiness on sexual satisfaction and vice versa are complicated by the fact that neither variable is readily subject to experimental manipulation (Hartman, 1983a, 1983b). Marital harmony may be a necessary but not sufficient condition in mediating a positive treatment outcome, and there is little doubt that sex therapy is the treatment of choice for sexually dysfunctional couples (Everaerd and Dekker, 1981).

At 3-year follow-up, analysis of data by diagnostic category indicated that sexual dysfunctions for both men and women were particularly resistant to sustained behavioural change (De Amicis et al., 1985).

Orgasm problems

Directed masturbation is a method that has gained substantial support from research (McMullen and Rosen, 1979; Riley and Riley, 1978). Barbach (1974) stated that the therapist’s experience can be of importance. Published reports document the use of directed masturbation by over 15 different therapists treating 250 women. At present, the treatment has demonstrated its success in improving orgasmic status, with 80–100% success rates (Andersen, 1983).

Two studies on the “coital alignment technique” confirm the efficiency of this method in the treatment of orgasm problems, the coital alignment technique yielded somewhat more positive outcome than did directed masturbation (Eichel and Eichel, 1980; Hurlbert and Apt, 1995).

Forty-eight couples with anorgasmia, impotence and loss of libido were randomly allocated to “Masters and Johnson, two therapists; modified Masters and Johnson, one therapist; marital therapy and relaxation.” Post-treatment and a one-year follow-up showed no significant outcome differences between different approaches (Crowe and Golombok, 1981).

An outcome study of various treatment formats for secondary orgasmic dysfunction found no significant differences between the different treatment conditions at the post-test or at the 6 months follow-up (Kilmann et al., 1986a, 1986b).

Sex therapy and communication therapy are both effective methods in treating female orgasmic dysfunction. However, sex therapy is more effective than communication therapy in that the improvement in sexual functioning comes more quickly. Both systematic desensitization and sex therapy significantly improves satisfaction with the total relationship in men and women, and desensitization significantly reduced sexual anxiety. The result of combined treatment — desensitization followed by treatment according to Masters and Johnson — were very poor (Everaerd and Dekker, 1981; Everaerd and Dekker, 1982). In terms of the actual effectiveness of sensate focus, estimates range from 40 to 83% of the subjects becoming orgasmic (Andersen, 1983).

Studies indicate that:

- desensitization might be the most appropriate for women whose sexual anxiety contributes to secondary orgasmic dysfunction;
- techniques that emphasize sexual and nonsexual communication might be more effective for secondary as opposed to primary non-orgasmic women (Fichten et al., 1983).

Sexual unresponsiveness

Various methods of systematic desensitization have been successful in treating vaginismus, dyspareunia, orgasmic dysfunction, and feeling of aversion toward sexual stimulation (Sotile and Kilmann, 1977).
In a comparative evaluation on sexual unresponsiveness in women, a woman-focused method was as effective as a "couple-focused method" for most target problems (Whitehead et al., 1987).

Given 10–15 minutes of exposure to the AFE zone stimulation in a clinic, 63.1% of women presented with chronic complaints of dryness and pain or discomfort during intercourse noted significant positive physiological response. Fifteen percent of the women responded instantly with orgasm and concomitant copious vaginal lubrication (Chua, 1997).

Erectile dysfunctions
When systematic desensitization was used alone as a treatment for erectile impotence, only limited therapeutic effect was seen. Then 12 of the men were treated using a "modification of Masters and Johnson" technique, combined with "sex education". Of the 12 men, eight were cured or improved according to the operational definitions. Three men showed no change and one man relapsed shortly after therapy was completed (Kockott et al., 1975).

In a study of Prostaglandine E1, low dose, versus "standard sex therapy" in the management of psychogenic erectile dysfunction, the results showed no statistical difference, but both groups reported high satisfaction with treatment (Baum et al., 2000).

In a study where the objective was to compare the acceptance of and satisfaction with intracavernosal injection (ICI) therapy with and without "sexological counselling", there was no positive contribution from additional counselling but extensive information and support by the urologist seems to be sufficient, resulting in a high acceptance rate of ICI (van der Windt et al., 2002).

Premature ejaculation
In the case of premature ejaculations, LoPiccolo refers to studies that have shown positive results using the "Seman’s pause-and-squeeze procedures", but points to the lack of research on the causes of premature ejaculation, and research on the underlying mechanisms by which the treatment works (LoPiccolo, 1985).

In a study on effect of the new "Functional-Sexological Treatment vs. start-stop", both treatments gave positive results (de Carufel and Trudel, 2006).

Follow-up studies on sex therapy
Hawton et al. looked at the results by a long-term follow-up of the outcome of sex therapy, and found that recurrence of sexual problems are relatively common, but it is also clear that couples who used the coping strategies derived from the Masters and Johnson approach often coped with the recurrences successfully. There were considerable differences in long-term outcome for various types of sexual problems. The study confirmed relatively good long-term outcome for erectile dysfunction. The results for premature ejaculation were disappointing. The findings that caused most concern by the authors were the very poor outcome for couples who originally sought help because of female partner’s impaired interest in sex. In spite of the relatively frequent recurrence of sexual problems, at follow-up the majority of couples were quite satisfied with their sexual relationships. Surprisingly few pretreatment predictors of long-term outcome were found. Even if the results of this study indicate relatively modest long-term results of sex therapy, they are sufficiently satisfactory to encourage the continued use of this approach (Hawton et al., 1986).

Bibliotherapy
Bibliotherapy is defined as “the use of written materials or computer programs, or the listening/viewing of audio/videotapes for the purpose of gaining understanding or solving problems relevant to a person’s developmental or therapeutic needs” (Marrs, 1995).

The written material used in bibliotherapy for sexual dysfunctions is based on methods and suggestions from therapist-administered sex therapy (Barbach, 1974; Heiman et al., 1976; Zeiss, 1978). Bibliotherapy is often applied within treatment formats with minimal or absent therapist contact. It has also been applied as an adjuvant to therapist-administered treatment for sexual dysfunction.

Studies on bibliotherapy

Sexual dysfunctions
A meta-analysis of bibliotherapy studies found divergent conclusions (Marrs, 1995). One study concluded after looking at 90 studies that there was not empirical evidence to support the use of bibliotherapy for sexual dysfunctions (Glasgow and Rosen, 1978). Another study concluded after reviewing 92 studies, that it could be helpful for sexual dysfunctions (Craighead et al., 1984).

Bibliotherapy can be effective in the treatment of sexual dysfunctions, and it is recommend that there is some contact with a therapist, to secure that bibliotherapy is applied appropriately (van Lankveld, 1998; van Lankveld et al., 2001).

Orgasmic dysfunction
In studies where bibliotherapy has been used in treatment of orgasm problems, the conclusions are more careful (Dodge et al., 1982; Libman et al., 1984; Trudel and Laurin, 1988).

Minimal therapist contact was compared with full therapist contact in the treatment of women with orgasmic dysfunction. The conclusion is that for orgasm problems, therapist contact time can be greatly reduced without loss of effectiveness (Morokoff and LoPiccolo, 1986).

Premature ejaculation
Written material based on the principles of Masters and Johnson’s therapy program has been shown to have good effect on premature ejaculation with minimal therapist contact (Lowe and Mikulas, 1975; Trudel and Proulx, 1987; Zeiss, 1978).

Discussion
The selection of works we have studied is based on research criteria requiring prospective studies, randomization and control groups. This means that high-quality work based on clinical experience have been excluded from this review.
We can conclude that extensive psychotherapy is not the treatment of choice in most cases, but where it is required, it must be adapted to the actual sexual problem. There is little doubt that sex-therapy is the treatment of choice for most sexually dysfunctional couples.

For problems with primary anorgasmia, directed masturbation has been shown to be the most effective treatment, while systematic desensitization has been shown to be more effective in cases in which sexual anxiety contributes to secondary orgasmic dysfunction.

Studies on treatment of erectile dysfunctions have shown that where anxiety is part of the problem, systematic desensitization seems to be as effective as PDE-5 inhibitors. Where anxiety is not a part of the problem, modified Masters and Johnson approach has given good results. Pharmacological treatment in itself does not substitute for sex-therapy, and the recommendation is that it must be used as part of a combination therapy.

There are some good results from treatment of premature ejaculation, the most important factor seems to be that the man is taught to be aware of the physical reactions in the body that lead up to ejaculation.

There are few studies on sexual unresponsiveness and problems with sexual desire. There may be different factors behind this, one is that sexual desire problems were introduced relatively late as part of the sexual response, another factor is that female sexual desire is a complex reaction that is difficult to fit into experimental research designs. From a clinical perspective we know that these problems are among the most frequent in women seeking sexualological assistance, and research in this area is required.

There are some different lines of research that we can detect: one is in the positivistic tradition, where control of variables is important. In searching for as clear relationships between variables as possible, the research conditions must resemble experimental designs as closely as possible.

Another line is based on a systemic orientation. The bio-psycho-social approach (Engel, 1977) is part of this line. Biology is gradually understood more as a dynamic variable than as a determinant of social behaviour. Sexual problems are understood less as simple dysfunctions in the organism, and more as results of complex interactions. The use of the PLISSIT-model (Annon and Robinson, 1976) is relevant in the differentiation of therapeutic needs. Research that focus on linear connections between treatment techniques and symptom relief seems to give way to studies where therapist characteristics, client characteristics, treatment format, and treatment content are varied in multivariate designs with objective pre- and post-treatment assessments. The complexity this implies paves the way for qualitative research, and even for reports of clinical experience as a contribution to the accumulation of professional knowledge about human sexuality.

**Conflict of interest**

None.

**References**


De Amicis LA, Goldberg DC, LoPiccolo J, Friedman J, Davies L. Clinical follow-up of couples treated for sexual dysfunction. Arch Sex Behav 1985;14:467—89.

Non-pharmacological treatment of sexual problems — A review of research literature


