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Treatments of Premature Ejaculation and Psychogenic Impotence: A Critical Review of the Literature

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Research on the treatments of premature ejaculation and psychogenic impotence is reviewed. Problems with the existing definitions of these disorders are discussed. The studies are reviewed under seven major headings: depth therapies, behavior therapies, hypnosis, drug therapy, mechanotherapy, reeducative and supportive therapies, and extensive retraining programs. Most of the studies were case reports. Considerable methodological weaknesses were found, most notably the failure to specify subject and treatment variables, the confounding of treatment methods, inadequate or nonexistent control groups, limited, if any, follow-up assessments of treatment effects, and a failure to obtain partner validation of subjects' progress. The studies which used systematic desensitization and the studies which assessed the extensive retraining programs reported the most consistently positive results, although better-controlled replications are needed. Among other issues, it was suggested that future investigators examine the impact of treatment on homogeneous samples and conduct controlled comparisons of different treatment methods.

KEY WORDS: premature ejaculation; impotence; sexual dysfunction; sexuality.

INTRODUCTION

A recent article by Sotile and Kilmann (1977) reviewed the treatments of the female sexual dysfunctions. However, the existing reviews of the male sexual dysfunction literature (i.e., Bancroft, 1971; Cooper, 1971; Dengrove, 1971a; Shusterman, 1973) are incomplete and lack a strict methodological evaluation.

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The surging professional interest in human sexuality suggests that it would be important to integrate the early research literature on the treatment of male sexual dysfunctions with the considerable research that has been done since the past reviews were completed.

This article reviews the research studies on the therapies currently available for the treatment of premature ejaculation and psychogenic impotence. Since most authors believe that only a small percentage of cases reflect physical abnormalities, the studies which focused exclusively on men with known specific physiological pathologies are not included.

The first part of this article presents the definitions of premature ejaculation and psychogenic impotence used in the studies. The second section reviews the various treatments under seven major headings: depth therapies, behavior therapies, hypnosis, drug therapy, mechanotherapy, reeducative and supportive therapies, and extensive retraining programs. The methodological strengths and weaknesses of the studies are discussed under each heading. Finally, the conclusions and implications of the review are stated.

DEFINITIONS

Premature Ejaculation

The definition of premature ejaculation varied across the studies, which made it difficult to integrate the findings. For example, Obler (1973) defined this disorder in terms of the man ejaculating in less than 2 min, presumably timed from the moment vaginal penetration takes place. The main difficulty with Obler's definition is that female sexual responses are completely ignored. Many women do not reach orgasm in this short time interval. Yet, satisfying the female is usually of primary importance in motivating the individual to seek help. Robins and Robins (1970) and Masters and Johnson (1970) find such "time interval" definitions unsatisfactory because of the idiosyncratic nature of each couple's sexual relationship. For example, some women can achive orgasm 30 sec after penetration if highly stimulated during foreplay, which may be satisfactory for a given woman. Thus a 2-min criterion in this case may be too long.

Masters and Johnson (1970) defined premature ejaculation as the inability to delay ejaculation long enough to allow the woman to reach orgasm in at least 50% of a couple's sexual encounters. This definition seems more adequate in that it considers the female partner's sexual response. However, there are also difficulties with this defintion. Some women might wish to reach orgasm in more than 50% of their coital encounters. Also, what if the women takes 45 min or more to reach an orgasm? A man who could delay his ejaculation for 30 min and no longer would be classified as a premature ejaculator. This is not

reasonable if his performance is in the range wherein most women would be satisfied. Within a treatment context, however, certain adjustments can be made. A women who invariably needs 45 min or more to attain orgasm probably could be taught to reach orgasm more quickly. The man also could be taught to delay his ejaculatory response even longer.

A greater problem with Masters and Johnson's (1970) definition appears, however, when working within a research context, where it is important to have operational criteria of sexual functioning. Judging whether someone fits into the "premature ejaculator" category at the beginning of a study and whether treatment was successful would be difficult with such a highly variable criterion as female orgasmic response. Comparing experimental with control groups or comparing different treatment methods would be even more difficult. This problem could be circumvented by reporting (1) the time in intercourse and (2) the percentage of coital encounters in which there is female orgasmic response. These figures would enhance comparability between researchers who espouse different views concerning what constitutes a successful treatment of premature ejaculation. The researcher could choose which would be the primary criterion variable, but both figures would be reported.

Sotile *et al.* (1977) noted that no investigations have assessed the prevalence of women's ability to attain vaginal orgasm. We suggest that future researchers should sample different populations of women regarding how long it takes them, on the average, to attain orgasm through intercourse. The resulting time interval then could be used to screen subjects and to judge treatment success. The criterion would be objective and more in line with the reality of how long it takes most women to attain orgasm. Until such information becomes available, a time interval longer than 2 min might be used, making it less likely that the woman's sexual response would be ignored. We suggest 5 min from vaginal entry to ejaculation as an arbitrary interim criterion. We hope that this criterion will provoke discussion and further refinement among clinical investigators in the field.

Psychogenic Impotence

The definition of impotence is not quite so confusing. A number of researchers (e.g., Kaplan, 1974b; Masters and Johnson, 1970) classified impotence as either primary or secondary. The man with primary impotence has never achived successful intromission in heterosexual or homosexual relations. In secondary impotence the man has, at least once, achieved successful intromission. Masters and Johnson (1970) further classified a man as impotent if he does not achive erections of sufficient quality to enable penetration of the female on at least 75% of his coital encounters. However, there are some difficulties with this definition. What about the man who achieves erections and generally is able to

effect intromission, but loses his erection shortly after entering the female? Surely the result is the same. The man has entered the female but probably has satisfied neither himself nor his partner. We would suggest that Masters and Johnson's definition be extended to include this type of impotence. Thus a man would be classified as impotent if he failed to achive and maintain erections of sufficient quality to achieve intromission and continue on to ejaculation in at least 75% of his coital encounters.

TREATMENTS

Depth Therapies

The reviews by Bancroft (1971) and Cooper (1971) found only case study data to support the claims of effectiveness made by depth psychotherapists. Layman (1972) reported three cases which illustrated the Freudian notion that impotence is the result of unconscious fears centering around the Oedipus complex. The resolution of these fears through a gradual interpretive process was reported as successful in all three cases. Layman attributed the cause of impotence to Oedipal fears wherein the spouse is unconsciously perceived as an incestuous sex object (someone with whom you should be emotionally but not sexually close). Incestuous relations are avoided through the symptom of impotence. Gradual attainment of insight in each of the three cases resulted in a dissipation of the unrealistic incest fears and in the remission of impotence.

While Layman's (1972) study is characteristic of the depth therapies which focus exclusively on Oedipal problems as the most important causal factor in sexual dysfunction, many depth therapists focus on other difficulties. Salzman (1972), Friedman (1973), and Kaplan (1974b) emphasize interpersonal dynamics as the key factor. They advocate determining the function which the sexual symptom is serving in the individual's present life. Salzman (1972), Kaplan (1974b), and Gill and Temperly (1974) found that both premature ejaculation and impotence are often expressions of anger against the female partner. They also found that the sexual dysfunction usually abates after the anger has been adequately dealt with. Proctor (1973) and Goldberg (1973) mentioned underlying depression as a frequent cause of impotence. These authors cited cases demonstrating that when the depression lifts, symptoms of impotence disappear. In these cases, impotence was only part of a constellation of problems centering around the individual's feelings of incompetence and lack of power. According to these authors, when the male examines the roots of these feelings and is assisted in taking a more active role in his life, both the depression and the impotence disappear. Other case study articles by dynamic therapists follow along

similar conflict resolution lines (Bauer and Stein, 1973; Friedman, 1974; Hastings, 1971; Kaplan *et al.*, 1974; Reckless *et al.*, 1973; Stewart, 1972).

O'Connor and Stern (1972) reported the only study in the depth psychotherapy literature which dealt with more than just a few clients. Using psychoanalytic psychotherapy, 15 of 20 males suffering from premature ejaculation and 11 of 15 impotent males were judged "improved" at the end of treatment. While these results are encouraging, some problems are evident in this study. The criteria for improvement were not specified, and female validation of the clients' self-reports was not sought. Furthermore, since the average client had over 2 years of therapy, there was no control for the multitude of environmental factors impinging on an individual over the 2-year time period.

In summary, there is no controlled research which supports the efficacy of depth therapy for the treatment of male sexual dysfunction. In fact, considerable data exist which contradict the assumption made by the depth psychotherapists. That is, several authors have reported the successful treatment of large numbers of sexually dysfunctional males without any attempt at extensive personality reorganization or at widespread unconscious conflict resolution (e.g., Friedman and Lipsedge, 1971; Hartman and Fithian, 1972; Masters and Johnson, 1970; Obler, 1973). Moreover, Lazarus (1961) and Obler (1973) compared depth psychotherapy with symptom-focused behavior modification techniques and found that the latter procedures were superior.

Behavior Therapies

Bancroft (1971) and Cooper (1971) reviewed behavioral studies which used small numbers of subjects without control groups. Dengrove (1971a) and Shusterman (1973) reviewed several other studies and concluded that behavioral treatment produced good results. However, these latter reviews largely ignored the methodological problems in the literature. For example, only Lazarus's (1961) study had a control group. Thus the literature on behavioral treatment up to 1970 can be considered only slightly more conclusive than the findings in the depth psychotherapy literature.

Bass (1974) reported a case study using systematic desensitization (SD) with impotence. The client was a college student who was impotent on the first two or three occasions with each new sexual partner, although he usually was successful on the fourth attempt. Anxiety hierarchies were constructed, but relaxation was inefficient as an anxiety-inhibiting stimulus. Sexually arousing fantasies were used as the counterconditioning agent and were interspersed between anxiety-eliciting scenes. Bass was careful to ensure that the sexual fantasies used between scenes were not anxiety provoking. The client was successfully desensitized within five sessions. Self-report results included suc-

cessful intercourse during the first attempt with a new partner, and a follow-up 6 months later revealed another first-attempt success during the interval. Other case studies using SD also reported the successful treatment of both impotence and premature ejaculation (Graham, 1971; Ince, 1973; LoPiccolo *et al.*, 1972; Teoh and Lee, 1974).

Two studies used drug-induced relaxation instead of muscular relaxation training in the SD procedure. Friedman and Lipsedge (1971) reported success with 14 of 19 impotent individuals using drug-induced relaxation and SD. The criterion of success was that the individual must report a total absence of erectile difficulties. These results are positive considering the fact that most individuals were treated in ten 30-min sessions or less. However, no control condition was included. Furthermore, treatment effects were confounded in that the clients also were given concurrent psychotherapy. Jones *et al.* (1972) also reported success using drug-assisted SD in the treatment of seven males who were secondarily impotent and had happy marriages with supportive spouses. Again, treatment effects were confounded and no control group was included.

Obler (1973) compared individual SD, psychoanalytically oriented group psychotherapy, and no-treatment control group on a variety of measures. The nine subjects in each of the three treatment conditions were highly educated, well motivated, and free from neurotic or psychotic disorders. They were categorized as having problems from either secondary impotence, premature ejaculation, or ejaculatory incompetence. A problem in this study is that Obler pooled the outcome data on these three types of disorders rather than breaking down the results according to disorder. Treatment effects were confounded in that the SD group also received assertiveness and confidence training. The SD reflected superior gains in comparison with the other two groups on measures of sexual performance (about 80% of the experimental group improved as opposed to under 15% improvement in the other two groups) and on measures of social and sexual anxiety. These results remained stable over a 1½-year follow-up period. Strengths in this study included the following: (1) trained psychotherapists were used who were unaware of the experimental design; (2) the subjects in the three conditions were matched on type of disorder, marital status, and duration of disorder; (3) female verification of the male self-reports were obtained; (4) all outcome measures were collected regularly throughout treatment. However, the fact that Obler conducted the SD group may have introduced some experimenter bias into the results.

Auerbach and Kilmann (1977) investigated the efficacy of group systematic desensitization with secondary impotence. Sixteen subjects were assigned into one of two conditions: group desensitization or a treatment control group. The groups were balanced on age, education, severity of disorder, duration of disorder, number of sexual partners, cooperativeness of female partner, and marital status. The SD group received 15 sessions lasting ¾ hr of relaxation plus a common hierarchy of sexual scenes, while the control group received 15 ses-

sions of relaxation alone. Both groups were given the expectation that they would improve. The same therapist, a doctoral student in clinical psychology, conducted both groups. Subjects in the SD group reflected significant positive changes when compared with control subjects on Obler's (1973) success/experience ratio. The experimental subjects reported an improvement of over 40% on this variable while the control subjects reported a 3% improvement. The experimental subjects also reported significantly greater satisfaction with nonsexual aspects of their relationship with their most frequent sexual partner. These gains were maintained over a 3-month follow-up period. The control subjects who received subsequent treatment made substantial gains which persisted over 3 months. Taken together, the findings suggested that the hierarchy aspect of SD was the critical treatment component which produced positive results.

In a report by Ince (1973), a man who was a premature ejaculator was treated by thought stopping. The client imagined the sequence of events in intercourse, and, when he reached the point where he usually ejaculated, the therapist would shout the word "Stop." Thus the undesirable response (ejaculating too early in the chain of responses constituting intercourse) was punished. The client also was directed to shout "Stop" to himself when he felt he would ejaculate too early in his actual coital connections. While treatment seemingly was effective, the concurrent use of systematic desensitization and masturbation 30–40 min prior to intercourse made the specific effectiveness of the thought-stopping procedure difficult to ascertain. Wish (1975) also used thought stopping with one case of secondary impotence. After 1 week, the man and his wife reported "dramatic improvement" in erectile functioning, although this outcome was not specified.

Tanner (1973) used Masters and Johnson's (1970) "squeeze technique" modification of Semans's (1956) start-stop method of treatment in two cases of premature ejaculation. Dependent measures were the seconds to ejaculation from the time of vaginal entry (measured by a stopwatch) and pleasure ratings of intercourse on a scale from −10 to +10. The first case involved a psychotic male who went from a mean of 119 sec at baseline to 228 sec during treatment. His wife's pleasure rating went from 0 during the baseline to +4.8 at the end of treatment. The couple was not located at the follow-up. It should be noted that the psychotic male may have been on medication that might have contaminated the results. The second case involved a premature ejaculator whose wife was psychotic. The husband went from 140 sec to 488 sec in intercourse and his pleasure ratings rose from +4.5 to +8.3 pre- to posttreatment. The wife's pleasure ratings went from −9 to +1.9. At the 9-month follow-up, the husband maintained his progress and his pleasure rating was +7 while his wife's pleasure rating increased to +5. Important strengths in Tanner's (1973) study are the use of precise dependent measures and the follow-up in the second case. Tanner's results also demonstrated that psychotic difficulties need not rule out the amelioration of sexual difficulties by behavioral procedures.

Quinn *et al.* (1970) reported a pilot study which involved a homosexual who already had received aversive conditioning in relation to homosexual stimuli. Through deprivation of water for 18 hr, then getting him drinks contingent on increased penile tumescence to heterosexual stimuli, the subject was able to increase his degree of erection considerably (as measured by the penile plethysmograph). He also reported increased heterosexual interest.

To summarize, the findings of case reports and of various studies attest to the positive impact of systematic desensitization on male sexual dysfunction. The results of Auerbach and Kilmann (1977) offered support for the efficacy of group SD with impotence. Their results also suggested that relaxation alone may not be sufficient for optimum treatment gains. Some evidence was found for the efficacy of thought stopping (Ince, 1973; Wish, 1975) and the squeeze technique (Tanner, 1973). It should be noted that, in recent years, exploratory behavioral methods have been used in clinical settings. For example, Sayner and Durell (1975) reported the use of biofeedback and sexual assertion rehearsal. Flowers and Booraem (1975) described the use of imagination training as an adjunct to other treatment methods. Wish (1975) described the use of covert conditioning methods combined with systematic desensitization. However, no empirical data were given to support the efficacy of these techniques.

Hypnosis

Segel (1970) reported on four impotent males who were treated successfully with a combination of "Rogerian psychotherapy" and hypnosis. In two cases, the impotence disappeared after only one session. In the most difficult case, 49 sessions were required. Segel maintained that it was the Rogerian techniques rather than the hypnosis which was the major contributor to treatment success. However, without a control condition, it was impossible to determine whether the Rogerian therapy or the hypnosis was the most important variable leading to treatment success. No systematic follow-up was conducted.

Levit (1971) reported the case of a man who was able to function sexually with a lover but who was impotent in sexual relations with his wife. His wife, who knew about the affair, was playing the depressed martyr role, making her husband feel very guilty without ever castigating him. Levit suspected that the impotence was symptomatic of unconscious anger that the man harbored toward his wife. In the first session, the client was hypnotized in order to get in touch with his anger. In the second and last session, the client and his wife discussed the ramifications of this anger. Levit reported that sexual relations were normal from that time on, although no formal follow-up was conducted. It could not be determined whether the hypnosis or the client-wife discussion was the effective treatment ingredient. Other case study reports of this type are found in Beigel (1971), Erikson (1973), Schenck (1970), Segel (1970), and

Spilman (1972). These authors used hypnotic suggestion and age regression along with a variety of other techniques including sex education, outside assignments, and depth psychotherapy. Thus the effects of the hypnosis procedure alone were not assessed.

In summary, the results of the hypnosis research are inconclusive. There are several successful case studies in the literaure, but there are no single-group or control group designs and no comparisons with other treatments. Practitioners often maintain that a combination of depth psychotherapy and hypnosis is more rapid and effective in ameliorating sexual dysfunction than either technique used in isolation. In order to test this notion, researchers should contrast the effects of hypnosis-alone, depth therapy-alone, and a combination of both treatments.

Drug Therapy

Cooper (1971) reviewed a series of six studies using Afrodex (a mixture of nux vomica extract, methyltestosterone, and yohimbine) on over 4000 impotent clients (Bruhl and Leslie, 1963; Leslie and Bruhl, 1963; Margolis and Leslie, 1966; Margolis *et al.*, 1967; Miller, 1968; Sabotka, 1969). Afrodex is assumed to stimulate testosterone production and act as an aphrodisiac. The six studies generally found significant improvement. However, significant improvements also were found with placebo conditions. Some evidence suggested that the drug treatment worked better for organic cases than for cases of psychogenic impotence. Mixed results were found for impotence treated either by testosterone or by tranquilizers.

In a study by Cooper *et al.* (1972), five males with psychogenic impotence were given clomiphene, a drug which is a nonsteroid triethylene derivative. The drug stimulates increased testosterone production without apparent major side effects. Testosterone levels were increased in the five clients. However, only one client showed even slight improvement in sexual performance. Also, this client's testosterone level had increased the least of any of the five clients, giving some credence to a placebo effect's being the mechanism of action rather than the effect of the drug. The findings offer little support for increased testosterone levels having any impact on the sexual performance of the individuals who do not have low levels to begin with.

Salomon *et al.* (1972) investigated the effects of Sargenor on a group of 58 individuals suffering from impotence, premature ejaculation, and retarded ejaculation. The drug is assumed to increase sex drive. Organic causes could not be ruled out since half of this group also were being treated for alcoholism. In a double-blind study, improvement was observed in 59% of the clients given Sargenor and in 36% of the individuals receiving the placebo. There was no test of significance, but the authors maintained that Sargenor clearly had a superior

effect. This effect, however, diminished, although not totally, over the course of a variable follow-up period from a few months to several years. It should be noted that a 59% success rate must not be considered very high since this figure includes both premature ejaculators and impotent men.

In summary, drug and hormone treatments have not been very impressive in their effectiveness. The effects, which could have been largely a result of placebo factors, seem to be either minimal or temporary. Even though Auerbach and Kilmann (1977) found relaxation to be ineffective in comparison with group SD, many authors find relaxation (or a lack of anxiety) to be critical in effective sexual functioning (i.e., Hartman and Fithian, 1972; Masters and Johnson, 1970; Obler, 1973). Thus, if a man believes that he is going to improve as a result of taking medication, he may become more relaxed in his sexual behavior.

Mechanotherapy

Dengrove (1971b) found an artificial penis especially useful in the treatment of impotence and premature ejaculation. This device is made of flexible, yet firm, plastic and fits over the dysfunctional male's penis, allowing him to give pleasure to his partner beyond the point at which he loses his erection. Dengrove states that an added benefit is that many times the male becomes so relaxed once he does not have to worry about his sexual performance that his erections become more frequent and lasting. As the man's erections improve, the artificial penis may be dispensed with. Dengrove reports that this device is also useful in the treatment of premature ejaculators since, after the ejaculation, the individual loses his erection and leaves his sexual partner unsatisfied. The artificial penis allows the couple to continue with intercourse after the ejaculation. Dengrove, however, cites only brief case history data to support the efficacy of this device.

Cooper (1974) conducted a controlled study investigating the efficacy of a penile ring. The ring, fitted at the base of the penis, was used as the experimental treatment. A continuous electrical current to the penis was provided. A nonelectrified penile ring, also fitting at the base of the penis, was used as the control treatment. The subjects were 40 impotent males, each serving as his own control. Each subject went through an appliance-free baseline period of 4 weeks. Then subjects were randomly assigned to 4 weeks of wearing either the electrified penile ring or an identifical nonelectrified penile ring (placebo). The next 4 weeks involved a switch of apparatus, with the group who used the electrical device changing to the placebo and *vice versa.* An appliance-free 4-week follow-up period was used. Both the experimental device and the placebo conditions reflected satistically significant improvements in sexual functioning over the baseline period, although these gains were not found at follow-up. It should be noted that the experimental treatment did not differ significantly in its effects from the placebo treatment.

Cooper attempted to explain the lack of difference between the experimental and placebo treatments by maintaining that the men in the placebo treatment might have been expecting success since the procedure elevated the penis and provided some pressure at the base of the penis. The notion that this factor might have aided in stimulating blood flow to the penis is echoed by Dengrove (1971b). However, the fact that the small changes of both the experimental and the control subjects did not last through the short follow-up period casts serious doubt on the usefulness of this particular treatment. In summary, the only data which supported the effectiveness of mechanotherapy are case-study and anecdotal. No controlled research has been conducted which supports the use of these devices. Cooper's (1974) study of a penile ring indicates that changes are small, that the effects are not lasting, and that expectancy or other placebo factors may have fostered the results.

Reeducative and Supportive Therapies

Cooper (1971) and Bancroft (1971) reviewed four studies classifiable as reeducative and supportive. Stafford-Clark (1954) reported that about half of his premature ejaculators and impotent males improved, although the number of individuals treated was not mentioned. Tuthill (1955) treated 257 men with impotence and premature ejaculation, and Johnson (1965) treated 62 males with these problems. Each of these studies was of the single-group type design, no formal control groups were included, and female validation of the male's self-report was not obtained. Tuthill's improvement rate was 57% and Johnson's was 33%. Johnson also obtained some informal control information after the fact by following up those individuals who applied for treatment but were not accepted. Over a 5-year period, improvement rates were the same for those who had not received treatment as for those who had.

McCary and Flake (1971) reviewed the literature and offered evidence that supportive techniques and bibliotherapy produced positive results. Other investigators (Bauer and Stein, 1973; Cooper, 1972; Golden, 1972; Proctor, 1973) also reported positive results using these techniques. However, all of these reports were anecdotal in nature and did not include improvement rates.

Thompson (1972) and Finkle (1972) advocated a procedure which combined a placebo (medication for prostatitis) with reassurance, education, and suggestions to engage in sex only under optimal conditions. The client is told that occasional instances of impotence do not signal any problem. The client is thus forewarned and is less likely to relapse after isolated instances of erectile failure. Thompson found this regime to be effective in that 50 out of 84 impotent males seen over a 10-year period improved and maintained improvement over the follow-up period. However, the average duration of follow-up was not specified.

In summary, the results for the reeducative and supportive therapies are, for the most part, unimpressive. Although most individuals who improved did so in relatively few sessions, the slightly better than average success rate (better than average for the reeducative and supportive therapies) may have been due to the placebo effect.

Extensive Retraining Programs

Cooper (1968a) treated a middle- to lower-middle-class socioeconomic population consisting of 31 impotent men and ten premature ejaculators. His sample represented a lower mean social class (more lower middle than middle class) and over two-thirds of the impotent men and nine of the ten premature ejaculators revealed that they would not have come in for treatment were it not for felt pressure from their wives. His population must be considered a poor treatment risk. The treatment was a combination of teaching men progressive deep muscle relaxation (to be practiced at home in and out of the sexual situation), several dual interviews wherein the spouse was encouraged to create a better climate for sexual interaction, sex education, and at least 20 individual supportive therapy sessions over a year's time. The premature ejaculators received the same treatment with the addition of the Semans "stop-start" technique. The improvement figures of these men were very close to the percentages of individuals in Cooper's sample who sought help on their own: 42% (13 out of 31) of the impotent individuals and 10% (one out of ten) of the premature ejaculators improved. The results were so discouraging that Cooper wondered whether more male sexual dysfunctions had an organic base than commonly thought.

The Masters and Johnson (1970) treatment program probably is the best known both to the professional and to the lay public. Their treatment concepts are based on "15 years of laboratory experimentation and 11 years of clinical trial and error" (p. 1). Their work has given us an empirical biophysiological base (see Masters and Johnson, 1966) which is a valuable aid to conceptualizing both normal and dysfunctional sexual activity. The treatment program, a combination of various procedures, is described in elaborate detail in their book and will not be reiterated here. A methodological strength in their research program is that these investigators conducted a reasonably systematic follow-up over a 5-year period. After treatment was terminated, clients were instructed to call the therapists if anything went wrong. The cotherapists also conducted conference-call telephone interviews on a specific schedule with greater intervals between conferences. Two-thirds of the evaluations done at the 5-year point were accomplished through in-person interviews and only a third were done by telephone. Success was defined as reversal of the "basic symptomatology," with failure defined as "return to sexual inadequacy during the five-year period after termination of the acute-treatment phase" (p. 353). The statistics for the Masters and

Johnson program are as follows: primary impotence ($N = 32$) (a male who has never had an erection sufficient to accomplish intercourse): initial success rate (ISR) 59.4%, 5-year success rate (FYSR) 59.4%; secondary impotence ($N = 213$): ISR 73.8%, FYSR 69.1%; and Premature ejaculation ($N = 186$): ISR 97.8%, FYSR 97.3%. At the time of the publication of their results, however, it should be noted that Masters and Johnson had been able to follow up only 45% of their original sample. An additional bias present in Masters and Johnson's data is the fact that the therapists rated patient improvement at the follow-up using unstructured interviews.

Lobitz and LoPiccolo (1972) described a program generally patterned after Masters and Johnson's but with some modifications. A male-female cotherapy team treats the couple for about 15 hr of weekly sessions with homework assignments given between sessions. Through extensive modeling and role-playing procedures, clients learn techniques of initiating and refusing sexual contact. They also learn to communicate their likes and dislikes and to express their tender emotions to each other. Toward the end of treatment, the clients prepare lists of behaviors that still need to be changed and the methods they intend to use to change them. Using Masters and Johnson's (1970) criteria of success, Lobitz and LoPiccolo's cure rate was six out of six premature ejaculators and four out of six cases of impotence. Follow-ups after 6 months found that these treatment gains were maintained.

The treatment program of Hartman and Fithian (1972) also is very similar to Masters and Johnson's (1970) program, with some additions. Hartman and Fithian include each spouse in the partner's physical examination. They give instant feedback to the couples on sexual techniques after observing the couple's initial sensate focus activities. They use a variety of explicit audiovisual aids demonstrating desirable and undesirable procedures in lovemaking. Gestalt and encounter techniques are used to explore and alter "body image" feelings and the couple's accustomed methods of interaction. Other techniques include hypnosis for impotent men. Hartman and Fithian conducted a 1-month follow-up of all clients by telephone or interview, although they did not mention the number of clients treated. While success rates are not reported, Hartman and Fithian state that their clients seem to have improved "in approximately the same proportions as reported by Masters and Johnson" (Hartman and Fithian, 1972, p. 205).

In McCarthy's (1973) modification of the Masters and Johnson program, couples are seen by one therapist once a week for 10–15 weeks with instructions to call the therapist should they have any difficulties in doing the homework assignments. McCarthy reported results comparable to those reported by Masters and Johnson in that 12 out of 14 couples reported "marked improvement." However, the exact number of impotent and prematurely ejaculating males in their population was not revealed.

Prochaska and Marzilli (1973) noted that since Masters and Johnson (1970) did not use control groups, it is impossible to determine which elements of their approach are essential and which are unnecessary. From their own experience, Prochaska and Marzilli found that the cooperation of the female partner was the only element absolutely essential to treatment success. When the partner did not come in for treatment with the identified client, the success rate was about 25%. By contrast, when the partner was in treatment with the client, the success rate for impotent males and premature ejaculators was about 90%. However, the data in this study are only suggestive, since strict controls were absent and the number of subjects was small ($N = 17$).

Powell *et al.* (1974) condensed the Masters and Johnson program into a 2½-day intensive sexual workshop. They added many audiovisual aides and introduced the concept of using groups for everything except the sexual exercises, which were conducted in the couples' private rooms at scheduled times throughout the weekend. Out of 16 couples, 14 experienced a reversal of symptoms and the other two couples improved but required further counseling. While follow-ups 3 weeks to 2 months after treatment indicated continued improvement in sexual functioning, five of the marital relationships were judged to be worse following treatment.

Kaplan's (1974b) program also is patterned after the Masters and Johnson approach and is described in considerable detail. Kaplan, however, treats individuals without partners as well as couples. Her population consists of more individuals from the lower socioeconomic classes than Masters and Johnson's. Treatment successes generally were comparable to those of Masters and Johnson, although she does not report any empirical data concerning treatment efficacy.

Other single case reports patterned after Masters and Johnson's (1970) approach offer almost uniformly positive results in the treatment of premature ejaculation (Adelson, 1974; Clarke and Parry, 1973; Hastings, 1971) and impotence (Hastings, 1971; Labby, 1974; Saddock, 1974).

In summary, considerable data support the effectiveness of the extensive retraining programs patterned after Masters and Johnson (1970). Most researchers using Masters and Johnson's program with or without modification achieved almost 100% success with premature ejaculation, while success rates with impotence usually were between 60% and 90%. Cooper's (1968a) program was the only one that obtained poor results, probably because of his poor-risk population as contrasted with the highly motivated middle- to upper-class population used in other studies (e.g., Masters and Johnson, 1970). It should be noted that there were no control groups in any of these studies. Without such control groups, as the researchers themselves noted, the most effective ingredients in their treatment package cannot be identified. Other methodological weaknesses in these studies included a lack of specificity regarding treatment success and inadequate follow-up methods.

CONCLUSIONS AND IMPLICATIONS

This review found conflicting evidence on the effects of depth psychotherapy. The data on the efficacy of mechanotherapy and hypnosis are insufficient at this time. The drug, the supportive, and the reeducative therapies used in isolation produced poor results. The various systematic desensitization procedures have the best controlled support in the literature. This conclusion is interesting because some of these procedures (e.g., Auerbach and Kilmann, 1977) did not include the direct training of sexual techniques. It may be that for the subjects in these studies a reduction in sexual anxiety was all that was necessary for improved sexual functioning. While there are no controlled studies of the extensive retraining programs, the results of Masters and Johnson (1970) and the seemingly successful adaptations of their program by other sex therapists (e.g., Kaplan, 1974b; Lobitz and LoPiccolo, 1972) attest to the effective impact of these procedures on male sexual dysfunction. It should be noted that many of the functions of control groups have been accomplished through the many replications of the Masters and Johnson (1970) program.

Perhaps the most glaring problem in the literature is that critical subject variables were largely ignored or not controlled. Most studies did not match or balance treatment groups on subject variables. Few investigators reported sufficient information regarding the type (i.e., primary vs. secondary) or extent of the disorder. Some investigators (e.g., Obler, 1973) combined several types of dysfunctions in their data analysis, thereby making the tenuous assumption that each of the dysfunctions had an equivalent treatment prognosis. The men within a given study probably reflected considerable differences on a number of critical treatment-related variables. Thus the findings may not have illustrated the actual impact of treatment on a specific dysfunction.

Larger and more homogeneous samples should be used in subsequent research. Studies using lower-class populations are needed as are studies using gay populations. Future investigators should report data on (1) percentages of primary and secondary impotence, (2) relevant information on premature ejaculation as discussed in the "Definitions" section of this article, (3) the duration of the disorder, (4) the patient's age, socioeconomic status, and cooperativeness of his most frequent sexual partner, (5) the patient's motivation for treatment. The information on the disorder should be as specific as possible on one dimension (e.g., secondary impotence 90% of the time with his wife, potent with his mistress) and on a second dimension (e.g., premature ejaculation before intercourse vs. premature ejaculation after intercourse begins). This specificity in reporting is critical because different men within the same global classification (i.e., premature ejaculation) may manifest subtle differences in the disorder and may require different treatments accordingly. For example, some men's pretreatment status would suggest a reeducative or supportive treatment,

while other treatments which include retraining procedures (e.g., Hartman and Fithian, 1972) may be recommended for other men. In essence, controlled research should result in the ability to place greater confidence in the pretreatment determination of the most compatible patient-treatment match for a given man.

With the exception of the behavioral studies, there was a lack of specificity regarding the characteristics of treatment. This state of affairs inhibits meaningful replications of procedures. For example, Reckless *et al.* (1973) mentioned the use of some "gestalt methods," but they did not describe which of these methods were used. Other investigators (e.g., Hartman and Fithian, 1972; Lobitz and LoPiccolo, 1972; LoPiccolo *et al.*, 1972; Obler, 1973) used more than one treatment concurrently, which confounded the precise measurement of treatment effects. Few studies were sufficiently controlled to partial out expectancy factors.

Similar to the procedure used by Auerbach and Kilmann (1977), future studies should use treatment control groups for comparison with the experimental treatment. The effects of different treatments on the same disorder should be determined. Since some treatment components may have differential relevance for varying client types and/or problems, studies should isolate the effective ingredients of treatment programs for a given dysfunction. The patients' ratings of the most and least effective treatment components may offer useful information in this regard.

It should be noted that, because of vague reporting in most of the studies, there is a lack of information on the impact of the therapist variable on treatment results. For example, the experience and training of the therapist often were not reported. While the structured format of most of the therapies may preclude the influence of therapist characteristics on patients' outcome, it seems reasonable that some therapists are more effective with a given treatment than other therapists (e.g., depth psychotherapy). Future research should separate therapist from treatment factors by using more than one therapist with the same treatment format.

Regarding the assessment of outcome, the method of conducting the follow-up often was not reported. Since most studies did not involve a follow-up, most of the available data reflected short-term treatment effects. Most investigators did not seek verification from the sexual partners concerning treatment effects. Many investigators judged subjects as improved or not improved without specifying the criteria used. Because the definition of good sexual functioning seemingly is dependent on the needs of a given couple, each man's treatment goals should be specified and used as outcome criteria. Future studies also should examine the impact of treatment on other dimensions of personal adjustment using standardized measures. In this regard, it would appear that self-concept-related variables would reflect a corresponding increase with improved sexual functioning.

While not all men with sexual dysfunction have partners, partner validations of the man's self-reports should be obtained before and after treatment whenever possible. Since partners may be a source of anxiety for the patient, future investigators should obtain data on the sexual functioning of partners. In this regard, Levine (1975) suggested that premature ejaculation may be a direct outgrowth of a partner's sexual dysfunction. Comparative studies should determine whether the man's treatment gains are enhanced if partners are included in treatment, or whether partner participation is not necessary for optimum results. It is conceivable that the treatments which do not require partner participation, such as group desensitization, are just as successful with some men as the treatments which include partners.

The present review found a notable increase in methodological sophistication in the last 5 years relative to the early literature. It is to be hoped that the public's continuing interest in obtaining sexual treatment will lead to larger samples being used in investigations and improved data gathering procedures. The recently popular marital and sexual enhancement workshops (see Otto, 1975) may offer new information on the psychological conditions and relationship-related factors that are concomitants to effective sexual functioning. It is likely that the male participants in these workshops may reflect varied sexual dysfunctions. While investigators are beginning to obtain data on these groups (e.g., Kilmann *et al.*, 1978), controlled studies with more specific reports of participants' pre- and posttreatment sexual functioning are needed.

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