

# 11.4 Female orgasmic disorder: treatment strategies and outcome results

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## The definition of orgasmic problems in women

The *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revision (DSM-IV-TR),<sup>1</sup> defines "female orgasmic disorder" as a persistent or recurrent delay in, or absence of, orgasm after a normal sexual excitement phase. The inability to obtain orgasm does not always lead to sexual distress or dissatisfaction in women,<sup>2</sup> and if the disorder does not cause the woman marked distress or interpersonal difficulty, a diagnosis of female orgasmic disorder should not be made. The diagnosis of this disorder should be based on the clinician's judgment that the woman's orgasmic capacity is less than would be reasonable for her age, sexual experience, and the adequacy of sexual stimulation she receives. Indeed, Laumann et al.<sup>3</sup> found that the youngest group of women (18–24 years) showed rates of orgasm lower than the older groups for both orgasm with a partner and orgasm during masturbation. This is likely to be attributable to age differences in sexual experience (see Chapter 6.4 of this book).

In diagnosis of female orgasmic disorder, it is particularly important to keep in mind that women exhibit wide variability in the type or intensity of stimulation required to attain orgasm. Research indicates that orgasm in women can be induced via erotic stimulation of a number of genital sites, including the clitoris and vagina (the most usual sites), periurethral glands,<sup>4</sup> breast/nipple, or mons<sup>5</sup> (see Chapters 4.1–4.3). Nongenital forms of stimulation reported to induce orgasm include mental imagery or fantasy<sup>6</sup> and hypnosis.<sup>7</sup> There have also been a few

isolated cases of "spontaneous orgasm" described in the psychiatric literature in which no obvious sexual stimulus could be ascertained.<sup>8</sup>

The DSM-IV-TR uses the terms "lifelong" versus "acquired" and "generalized" versus "situational" to further describe female orgasmic disorder. However, most studies examining orgasmic dysfunction in women refer to orgasm problems as either "primary orgasmic dysfunction" or "secondary orgasmic dysfunction". These different diagnostic labels lead to some confusion when interpreting the literature on women's orgasm. In general, the term "primary orgasmic dysfunction" is used to describe women who report never having experienced orgasm under any circumstances, including masturbation. According to the DSM-IV-TR, this would refer to those women who meet criteria for lifelong and generalized female orgasmic disorder. "Secondary orgasmic dysfunction" relates to women who meet criteria for situational and/or acquired lack of orgasm. By definition, this encompasses a heterogeneous group of women with orgasm difficulties. For example, it could include women who were once orgasmic but are now so only infrequently, as well as women who are able to obtain orgasm only in certain contexts, with certain types of sexual activity, or with certain partners. The DSM-IV-TR does not directly address the issue of women who can obtain orgasm during intercourse with manual stimulation but not intercourse alone. However, the generally accepted clinical consensus is that she would not meet criteria for clinical diagnosis if she is able to obtain orgasm during masturbation unless she is distressed by the frequency of her sexual response.

Studies of women diagnosed with DSM-IV-TR female

orgasmic disorder report that a high percentage of these women also meet DSM-IV-TR criteria for female sexual arousal disorder.<sup>9-11</sup> This suggests that, although the DSM-IV-TR explicitly states that the absence or delay in orgasm is to follow "a normal sexual excitement stage", this criterion is often ignored. In light of this and other shortcomings of the traditional nosology of women's sexual disorders, an international multidisciplinary group recently proposed changes to the existing diagnostic system.<sup>12</sup> In hopes of highlighting the fact that a DSM-IV-TR diagnosis of female orgasmic disorder precludes one of arousal disorder, the committee proposed the following criteria for diagnosing women's orgasmic disorder: "Despite the self-report of high sexual arousal/excitement, there is either lack of orgasm, markedly diminished intensity of orgasmic sensations or marked delay of orgasm from any kind of stimulation."

## The prevalence of orgasmic problems in women

Based on findings from the National Health and Social Life Survey,<sup>13</sup> orgasmic problems are the second most frequently reported sexual problem in American women (see Chapters 2.1-2.4). Results from this random sample of 1749 women (ages 18-59) indicated that 24% reported a lack of orgasm in the past year for at least several months or more. This survey also suggested that unmarried women and women who have not graduated from college are at greater risk of developing orgasm problems.

This percentage is comparable to clinic-based data. Orgasmic problems were noted by 29% of 329 healthy women (aged 18-73 years) who attended an outpatient gynecologic clinic<sup>11</sup> and by 23% of 104 women (aged 18-65+ years) attending a UK general practice clinic.<sup>14</sup> Similarly, absence of orgasm was reported in 28% of 67 women (aged 34-75 years) with chronic hypertension.<sup>15</sup> Although vascular abnormalities are a hallmark of this condition, it is interesting to note that the prevalence of orgasm dysfunction in this population is comparable to that of the general population.

## The treatment of female orgasmic disorder (see Chapters 11.1 and 11.3)

Female orgasmic disorder has been treated from psychoanalytic, cognitive-behavioral, pharmacologic, and systems theory perspectives.<sup>16</sup> Substantial empirical outcome research is available only for cognitive-behavioral and pharmacologic approaches; hence, this review will focus specifically on these two methods of treatment (Table 11.4.1). Regardless of the treatment approach used, one needs to keep in mind that relationship factors such as marital satisfaction, marital adjustment, happiness, and stability have been linked to orgasm consistency, quality, and satisfaction in women.<sup>17</sup> A relation between

childhood sexual abuse (see Chapter 3.4) and various sexual difficulties has also been reported.<sup>18</sup> Although they are correlational in nature, these findings highlight the need for clinicians carefully to consider contextual factors such as a woman's sexual and relational history when designing a treatment approach.

## Cognitive-behavioral approaches

(see Chapters 11.1 and 11.3)

Cognitive-behavioral therapy for female orgasmic disorder focuses on promoting changes in attitudes and sexually relevant thoughts, decreasing anxiety, increasing the link between positive emotions and sexual behavior, and increasing orgasmic ability and satisfaction. As described below, the behavioral exercises used to induce these changes traditionally include directed masturbation, sensate focus, and systematic desensitization. Sex education, communication skills training, and Kegel exercises are also often included in cognitive-behavioral treatment programs for anorgasmia.

### Directed masturbation (see Chapter 11.1)

Directed masturbation is most frequently prescribed for women with primary anorgasmia. LoPiccolo and Lobitz<sup>19</sup> were the first to detail a program of directed masturbation, and since then, several other researchers have provided variations.<sup>20,21</sup> The successive stages of directed masturbation train a woman to locate and manually stimulate genital areas that bring her sexual pleasure. The process begins with a visual exploration of the body, using a mirror and educational material depicting female genital anatomy. After visual and manual identification of the sensitive genital areas that elicit pleasure, a woman is instructed to apply targeted manual stimulation to these regions. Training on self-stimulation is directed toward the woman's achieving orgasm alone. Once she has accomplished this, her partner is incorporated into the directed masturbation sessions. The reasons for partner inclusion are twofold: first, the partner's presence serves as desensitization. As the woman learns to experience sexual arousal and orgasm openly in the company of her partner, anxiety accompanying sexual encounters lessens. Second, the partner observes how to stimulate the woman effectively.

To the extent that focusing on nonsexual cues can impede sexual performance,<sup>22</sup> masturbation exercises can help a woman to direct her attention to sexually pleasurable physical sensations. Because masturbation can be performed alone, any anxiety that may be associated with partner evaluation is necessarily eliminated. Moreover, because the amount and intensity of sexual stimulation is directly under the woman's control, she is not reliant upon her partner's knowledge or her ability and/or comfort with communicating her needs to her partner. Empirical support for this treatment approach is provided by research that shows a relation between masturbation and orgasmic ability. Kinsey et al.<sup>23</sup> reported that the average woman reached orgasm 95% of the time she engaged in masturbation

compared with 73% during intercourse. More recently, Laumann et al.<sup>3</sup> reported a strong relation between frequency of masturbation and orgasmic ability during masturbation. Sixty-seven per cent of women who masturbated one to six times a year reported orgasm during masturbation compared with 81% of women who masturbated once a week or more.

Women with female orgasmic disorder have been treated successfully by directed masturbation in a myriad of therapy settings, such as group, individual, couples therapy, and bibliotherapy. A number of outcome studies and case series report directed masturbation is highly successful for treating primary anorgasmia. In an uncontrolled outcome study, Barbach<sup>24</sup> reported that 92% of 83 women with primary anorgasmia became orgasmic during masturbation after 10 sessions of group directed masturbation. In a wait-list controlled study, Delehanty<sup>25</sup> reported an 82% success rate in 28 women with primary anorgasmia who were treated with directed masturbation and assertiveness training in a 10-week group cotherapy format. Heinrich<sup>26</sup> reported that at 2-month follow-up, 100% of women with primary anorgasmia were able to attain orgasm during masturbation, and 47% were able to attain orgasm during intercourse after 10 sessions of therapist-directed group masturbation training. Among the women treated by self-directed masturbation training (bibliotherapy), 47% reported becoming orgasmic during masturbation and 13% during intercourse. In comparison, among the women who were assigned to wait-list control, only 21% were able to attain orgasm during masturbation, and none were able to attain orgasm during intercourse. McMullen and Rosen<sup>27</sup> compared the effectiveness of directed masturbation using bibliotherapy versus directed masturbation using instructional videotape versus wait-list control in 60 women with primary anorgasmia. They reported 65% of women who used a text and 55% of women who used videotapes had experienced orgasm during masturbation. Fifty per cent and 30%, respectively, were orgasmic during intercourse after 6 weeks. None of the wait-list control women had attained orgasm.

Few controlled studies have examined the exclusive effects of directed masturbation for treating secondary anorgasmia. Fitchen et al.<sup>28</sup> compared minimal therapist contact bibliotherapy with a variety of techniques, including directed masturbation, relaxation exercises, Kegel exercises, sensate focus, and sexual communication training, and found no change in orgasmic ability among 23 women with secondary anorgasmia. Hurlbert and Apt<sup>29</sup> recently compared the effectiveness of directed masturbation with coital alignment technique in 36 women with secondary anorgasmia. Coital alignment is a technique in which the woman assumes the supine position and the man positions himself up and forward on the woman. Thirty-seven per cent of the women receiving instructions on coital alignment technique versus 18% of those receiving directed masturbation reported substantial improvements (> 50% increase) in orgasmic ability during intercourse after four 30-min sessions. The benefits of this technique result from the fact that clitoral contact and possibly paraurethral stimulation are maximized.

#### Anxiety reduction techniques

Anxiety could potentially impair orgasmic function in women by disrupting the processing of erotic cues and causing the woman to focus instead on performance-related concerns, embarrassment, and/or guilt. This, in turn, could lead the woman to engage in self-monitoring during sexual activity, an experience Masters and Johnson<sup>30</sup> referred to as "spectatoring". Barlow<sup>22</sup> proposed that deficits in sexual function due to inhibited excitement are largely caused by disruptions in the processing of erotic cues necessary for arousal. These disruptions occur when sexual performance cues (i.e., those which occur during spectatoring) activate performance anxiety. This, in turn, leads to a shift in attention from reward-motivated focus on arousal cues to threat-motivated focus on sexual failure. Negative affect may perpetuate this cycle of dysfunctional sexual responding by contributing to an avoidance of erotic cues and consequent focus on nonerotic cues.<sup>22</sup> Indeed, a number of laboratory studies have demonstrated that cognitive distraction can impair sexual arousal in women.<sup>31,32</sup> Anxiety reduction techniques could be beneficial for helping women attain orgasm by enabling them to focus on pleasurable sexual thoughts and sensations that enhance arousal.

Systematic desensitization, first described by Wolpe,<sup>33</sup> and sensate focus, originally conceived by Masters and Johnson,<sup>30</sup> are the two most commonly used anxiety reduction techniques for treating female orgasmic disorder. Deep relaxation exercises in systematic desensitization enable the woman to replace fear responses with relaxation responses. A succession of anxiety-provoking stimuli is developed by the woman and the therapist to represent increasingly threatening sexual situations. The woman's task is to experience fearful and relaxed responses alternately, resulting in a net decrease of anxiety. After the woman can successfully imagine her hierarchy of anxiety-provoking situations without anxiety, she engages in the hierarchy of actual activities. Sensate focus is primarily a couple's skills-learning approach designed to increase communication and awareness of sexually sensitive areas between partners. Couples practicing sensate focus are instructed first to explore their partner's nonsexual body regions without the potential for sexual activity. The couple increasingly practice sexual touching without the pressure of sexual intercourse. The sexual touching allows a woman eventually to guide genital manual and penile stimulation to enhance her arousal. Conceptually, the removal of goal-focused orgasm, which can cause performance concerns; the hierarchic nature of the touching exercises; and the instruction not to advance to the next phase before feeling relaxed about the current one, suggest that sensate focus is also largely an anxiety reduction technique and could be considered a modified form of *in vivo* desensitization.

The success of using anxiety reduction techniques to treat female orgasmic disorder is difficult to assess because most studies have used some combination of anxiety reduction, sexual techniques training (e.g., directed masturbation), sex education, communication training, bibliotherapy, Kegel exercises, and/or pharmacologic agents, and have not systematically evaluated the

Table 11.4.1. Controlled outcome studies for the psychologic treatment of orgasm dysfunction

Reference	n	Subject characteristics	Definition of anorgasmia	Treatment	Outcome
<b>Directed masturbation</b>					
Heinrich <sup>26</sup>	44	M age = 25; 20 married, 24 with regular partner	Primary anorgasmia	DM (G) vs DM bibliotherapy (I) vs WL; DM: 10 sessions/5 weeks; DM bibliotherapy: 1 session	2 months: DM: 100% orgasmic with masturbation (om), 47% coitally orgasmic (co); DM bibliotherapy: 47% om, 13% co; WL: 21% om, 0% co
Munjack et al. <sup>41</sup>	22	12 prim, 10 sec	Primary and secondary anorgasmia	SD, DM, assertiveness training, modeling, sexual edu (I/C) vs WL; 22 weekly sessions	Tx > WL orgasmic ability; no difference between prim and sec
Riley and Riley <sup>42</sup>	SF (n = 15) DM + SF (n = 20)	M age = 26; married	Primary anorgasmia, defined as orgasmic inability regardless of type of sexual stimulation	DM and SF (C) vs SF (C); 6 weekly and 6 bimonthly sessions	DM and SF: 18/20 orgasmic; SF: 8/15 orgasmic; 1-year follow-up: gains maintained
McMullen and Rosen <sup>27</sup>	DM Bibliotherapy (n = 20) DM Instructional (n = 20) WL (n = 20)	M age = 29; 30 married, 30 single	Primary anorgasmia, defined as orgasmic inability through any sexual stimulation; assessed via clinician interview, self-report, and Sexual Behavior Inventory	DM Bibliotherapy (I) vs DM Instructional videotape (I) vs WL; 6 sessions/6 weeks	Bibliotherapy: 65% orgasm with masturbation (om), 50% coitally orgasmic (co); Instructional: 55% om, 30% co; WL: 0% om, 0% co; 1-year follow-up: gains maintained/improved
Reisinger <sup>43</sup>	3	M age = 33; married 8–15 years	Secondary anorgasmia, coitally and by masturbation	DM with erotic video 8–13 sessions; stimulation by partner w/o training 2–6 sessions; stimulation by partner w/training 6–10 sessions; solitary stimulation w/o erotic aids 2–3 sessions; stimulation w/partner 4–7 sessions	DM: 3/3 orgasmic ability through masturbation; limited orgasmic success w/o partner training; 67% orgasmic ability with partner training; 2, 6-month follow-ups: 80% orgasmic ability with and without partner stimulation
Andersen <sup>44</sup>	30	M age = 25; 25 married, all with regular partners; some sexual aversion	Self-reported primary anorgasmia, also assessed via Sexual Interaction Inventory	SD (G) vs DM (G) vs WL; 10 sessions/5 weeks	DM > SD, WL on orgasmic response; 6-week follow-up: DM > SD on orgasmic response
Delehanty <sup>25</sup>	28	M age = 30	Preorgasmic: no history of orgasm within previous 5 years or primary anorgasmia; assessed via self-report and orgasm checklist	DM and assertiveness training in group cotherapy format for 10 weeks vs WL	82% orgasmic success with tx
Heiman and LoPiccolo <sup>45</sup>	41	M age = 30; 25 prim, 16 sec, absence of severe marital distress	Primary and secondary anorgasmia	CBT, communication training, DM, SF, systems conceptualization (C) vs WL; 15/1-h sessions	Prim and sec: increased duration foreplay and si; Prim: increased frequency si, increased orgasmic response during masturbation and si; sec: increased orgasmic response during si, increased initiation of sexual activity

Table 11.4.1. (Continued)

Reference	n	Subject characteristics	Definition of anorgasmia	Treatment	Outcome
Bogat et al. <sup>46</sup>	11	N/A	Self-reported preorgasmic (less than 10% of time) with desire to improve ability, also assessed with Women's Orgasmic Efficacy and Comfort Scale	DM vs no treatment (C); 10 sessions	80% Improvement in orgasmic success in tx vs controls
Eichel et al. <sup>47</sup>	CAT (n = 22) Control (n = 43 men and women)	CAT: M age = 40; Control: M age = 39; interest in sexual enhancement	Orgasmic function assessed via Orgasmic Attainment Criteria Scale	Coital alignment technique (C) vs no treatment (C)	CAT group: improvement in frequency of orgasm, simultaneous orgasm, and orgasm satisfaction compared to controls; use of CAT by both groups correlated with improved frequency of all orgasm variables
Hurlbert and Apt <sup>29</sup>	CAT (n = 19) DM (n = 17)	M age = 28; 36 sec; M years married = 5	Secondary anorgasmia, assessed via self-report and sex diary	Coital alignment technique (I) vs DM (I); 4 sessions of assertiveness training, communication, and SF	CAT: 37% substantially improved, 58% moderately improved orgasmic ability during si; DM: 18% substantially improved, 35% moderately improved orgasmic ability during si
<b>Systematic desensitization</b>					
Husted <sup>48,49</sup>	30	Mixed sexual dysfunction; all with partners; sexual anxiety	N/A	SD: imaginal (I) vs (C); vs in vivo (I) vs. (C) vs No-treatment control; Imaginal M = 8 sessions, <i>in vivo</i> M = 13 sessions	SD: decreased anxiety, increased coital frequency and orgasmic ability with masturbation; no difference (I) vs (C) or imaginal vs <i>in vivo</i>
Obler <sup>50</sup>	37	Mixed sexual dysfunction; marital status matched across groups	N/A	SD with videotapes (I) vs psychoanalytic tx with videotapes (G) vs WL; SD: 15 45-min sessions; Psychoanalytic: 10 75-min sessions	SD: 85% orgasmic; psychoanalytic: 36% orgasmic WL: 23% orgasmic SD > psychoanalytic, WL on decreased anxiety
Mathews et al. <sup>51</sup>	18	M age = 28; 13 prim, 5 sec; 17/18 low sexual desire/arousal	Primary and secondary anorgasmia	SD, sexual tx (C) vs SF, sexual tx (C) vs SF, bibliotherapy (C); 10 sessions; 3 sessions and 10-week mailing for SF, bibliotherapy	2/18 Increased orgasmic ability; no difference between groups; 4-month follow-up: no difference between groups
Wincze and Caird <sup>52</sup>	21	18-38 years old; 16 prim, 5 sec; 19/21 married; sexual anxiety	Frigidity, including "essential" sexual dysfunction	SD Imaginal (I) vs SD video (I) vs WL; M = 10 sessions/ 2-7 weeks	SD: 40% orgasmic; no difference between imaginal/video groups; 1-3-month follow-up: 25% orgasmic ability
Nemetz et al. <sup>53</sup>	SD (I) (n = 8) SD (G) (n = 8) Control (n = 6)	21-39 years old; 7 prim, 15 sec; sexual anxiety; all with regular partners	Primary and secondary anorgasmia	SD (I) vs SD (G) vs Control; 5 sessions/3 weeks	No difference between groups in orgasm; 3 weeks, 1yr follow-up: gains maintained

Table 11.4.1. (Continued)

Reference	n	Subject characteristics	Definition of anorgasmia	Treatment	Outcome
O'Gorman <sup>54</sup>	40	M age = 36; low sexual desire/arousal, some dyspareunia/vaginismus	Frigidity, including orgasm dysfunction	SD, sex edu (G), partner-only discussion groups vs SD, intravenous methoxitane sodium to induce relaxation (I with partner participation); SD (G) 20 1-hr sessions; SD (I) 15 10-min sessions/10 wk	SD, sex edu (G): 63% successful; SD, methoxitane sodium (I): 37% successful
Andersen <sup>44</sup>	30	M age = 25; 25 married, all with regular partners; some sexual aversion	Self-reported primary anorgasmia, also assessed via Sexual Interaction Inventory	SD (G) vs DM (G) vs WL; 10 sessions/5 weeks	DM > SD, WL on orgasmic response; 6-week follow-up: DM > SD on orgasmic response
Obler <sup>55</sup>	Integrated (n = 8) Couples (n = 8) No treatment (n = 10)	18-36 years old; married or cohabiting for over 2 years; no previous psychotherapy	N/A	42 weeks of Integrated hypnoanalytic/behavioral group vs 16 weeks of cotherapist/couples vs No tx; 1 year	Integrated: 7/8 self-reported orgasmic ability over 60% of time; cotherapist/Couples: 2/8 self-reported orgasmic ability over 60% of time; no tx: no self-reported orgasmic ability
<b>Sensate focus/other</b>					
Carney et al. <sup>56</sup>	Testosterone (n = 16) Diazepam (n = 16)	M age = 29; sexual anxiety; vaginismus or orgasm dysfunction as primary complaint excluded	Secondary anorgasmia assessed via self-report, clinician rating and independent assessor rating	SF weekly: testosterone, 10 mg daily (T) vs diazepam, 10 mg daily (C) vs. SF monthly: T vs diazepam (C); SF weekly: 16 sessions, SF monthly: 5 sessions	No difference in orgasm between weekly vs monthly T > diazepam frequency of orgasm; 6-month follow-up (after drug discontinuation): gains maintained
Roughan and Kunst <sup>57</sup>	PC group (n = 14) Relax (n = 12) Control (n = 14)	M age = 32; 14 with orgasmic dysfunction	Primary anorgasmia or secondary anorgasmia lasting over 2 years	PC (G): PC exercises, 5 times daily for 12 weeks vs relaxation (G): exercises for 12 weeks vs no tx	No relationship between PC muscle tone and orgasmic ability in any group
Fichten et al. <sup>28</sup>	23	M age = 33; M years married = 10	Secondary anorgasmia	Sexual information, relaxation, Kegel ex, DM, SF, sexual communication training, ban on si: (C) vs. (G) vs minimal contact bibliotherapy; 14 weeks	SF: no change in orgasm; increase in enjoyment of noncoital sexual caressing and si
Chambless et al. <sup>58</sup>	16 (group n's not specified)	M age = 27	< 30% orgasm with coitus; assessed with Women's Sexuality Questionnaire	Kegel ex vs Attn. placebo (nonsexual imagery) vs. WL; 6 weeks	No differences in coital orgasmic frequency despite improvement in each group; no change in perceived vaginal stimulation during orgasm in any group
LoPiccolo et al. <sup>59</sup>	31	M age = 35; 12 prim, 19 sec; M years married = 13	Primary and secondary anorgasmia	CBT sexual therapy (LoPiccolo and Hogan, 1979) vs WL (C), both for 15 1-h sessions	Prim and sec: Increase in orgasm with masturbation; 3-month follow-up: gains maintained/improved
Kilman et al. <sup>38</sup>	55	M age = 33; 51 married; all with partners; no dyspareunia or vaginismus, no premature ejaculation	Secondary anorgasmia for 5 months through si or clitoral stimulation and dissatisfied with coital orgasmic ability; assessed via clinician interview	2 2-h sessions sex education followed by communication skills (C/G) vs sexual skills (C/G) vs WL vs Attn-placebo	Communication and sexual skills > controls in coital orgasm ability; no difference between groups; 6-month follow-up: gains decreased, no difference between groups

Table 11.4.1. (Continued)

Reference	n	Subject characteristics	Definition of anorgasmia	Treatment	Outcome
Morokoff and LoPiccolo <sup>60</sup>	43	M age = 30; prim; M years married = 9; no male sexual dysfunction, no psychosis or depression	Primary anorgasmia, assessed via Sexual History Form	DM and bibliotherapy in either minimal therapist contact for 4 sessions (MTC; n = 14) vs full therapist contact for 15 sessions (FTC; n = 29)	Increased orgasmic ability with masturbation and si; MTC > FTC on increased frequency orgasm with masturbation
Kilmann et al. <sup>61</sup>	11	M age = 30; 10 married; no premature ejaculation in partners	Secondary anorgasmia, defined as 50% coital orgasm or less over 5 months and dissatisfaction with orgasmic frequency; assessed via structured interviews, Sexual Interaction Inventory and Sexual Behavior and Attitudes Questionnaire	2 2-h sessions sex education followed by communication and sexual skills vs WL vs Attn-placebo	Tx > WL, Attn-placebo: increase in orgasmic ability with tx
Milan et al. <sup>62</sup>	38	M age = 33; sec; M years relationship = 10; regular sexual partners with no dysfunction; 9% orgasmic frequency	Secondary anorgasmia, assessed via scale adapted from the Sexual Behavior and Attitudes Questionnaire	10 2-h sessions/5 weeks of sex education and either: communication skills vs sexual skills vs brief sex and communication skills vs didactic lecture vs WL 2-6 years:	No difference between tx groups, WL on sexual or relationship functioning
Van Lankveld et al. <sup>63</sup>	Bibliotherapy (n = 9) WL control (n = 9)	M age = 37; M sexual dysfunction duration = 8 years; hyposexual desire disorder; vaginismus; dyspareunia	DSM-IV diagnosis of orgasmic dysfunction via structured interview, with no distinction between primary and secondary anorgasmia; assessed via self-report and Golombok Rust Inventory of Sexual Satisfaction	Bibliotherapy (including communication skills, sexual education, and SF) and CBT with telephone support vs WL; 10 weeks	No improvement in orgasm in tx vs controls

SD = systematic desensitization, DM = directed masturbation, SF = sensate focus, CBT = cognitive-behavioral therapy, WL = wait-list, (I) = individual therapy, (C) = couples therapy, (G) = group therapy, (GI) = group/individual therapy, (GC) = group/couples therapy, prim = primary orgasmic dysfunction, sec = secondary orgasmic dysfunction, si = sexual intercourse, M = mean, tx = treatment.



independent contributions to treatment outcome. In addition, even within specific treatment modalities, considerable variation between studies exists. For instance, systematic desensitization has been conducted both imaginally and *in vivo*, has used mainly progressive muscle relaxation but also drugs<sup>34</sup> and hypnotic techniques<sup>35</sup> to induce relaxation, and has varied somewhat in the hierarchic construction of events. Variations in population demographics, sexual dysfunction severity, diagnoses, primary versus secondary anorgasmia, therapist characteristics, treatment settings, type of treatment, and duration of treatment further complicate systematic examination of anxiety reduction techniques for orgasmic function. With these limitations in mind, across controlled studies, women have reported decreases in anxiety and increases in the frequency of sexual intercourse and sexual satisfaction with systematic desensitization, but substantial improvements in orgasmic ability have not been noted (for review, see Meston et al.<sup>36</sup>). Similarly, of the few controlled studies that have included sensate focus as a treatment component, none have reported notable increases in orgasmic ability (for review, see Meston et al.<sup>36</sup>).

#### Other behavioral techniques

As discussed, female orgasmic disorder treatment outcome studies often contain a variety of treatments. To date, studies have not teased apart the independent contributions of each treatment component to account for improvement in orgasmic ability. However, these treatments have received wide support from the literature and thus warrant mention. Sex education has been a hallmark of sex therapy since the days of Masters and Johnson.<sup>30</sup> Education about female genital anatomy may help acquaint a woman with her body's pleasure-producing regions and consequently help alleviate orgasm difficulties. As demonstrated by Jankovich and Miller's study of women with primary anorgasmia,<sup>37</sup> seven out of 17 women experienced increased orgasmic capability after audiovisual sexual education sessions. In a comparison of the effectiveness of various sequences of sex education and communication skills training versus wait-list control, Kilmann and associates<sup>38</sup> found sex education to be beneficial for enhancing orgasmic ability in women with secondary anorgasmia at post-test but not at 6-month follow-up. Everaerd and Dekker<sup>39</sup> found sex therapy and communication skills training to be equally effective in improving orgasmic ability. Kegel<sup>40</sup> proposed that conducting exercises that strengthen the pubococcygeous muscle could facilitate orgasm by increasing vascularity to the genitals. Treatment comparison studies have generally found no differences in orgasmic ability between women whose therapy included using Kegel exercises and those whose therapy did not. However, to the extent that Kegel exercises may enhance arousal and/or help the woman become more aware and comfortable with her genitals, these exercises may enhance orgasm ability.

#### Pharmacologic approaches

Few placebo-controlled studies have examined the effectiveness of pharmacologic agents for treating female orgasmic disorder

(Table 11.4.2). Sustained release bupropion failed to improve orgasm in nondepressed women ( $n = 20$ ) with orgasm dysfunction as compared to placebo. However, up to 20% of the sample experienced facilitated and/or more intense orgasms during bupropion treatment. These same individuals did not report comparable sexual effects with placebo.<sup>64</sup> Ito and colleagues<sup>65</sup> examined the effects of the female sexual health nutritional supplement ArginMax, a blend of ginseng, *Ginkgo biloba*, damiana leaf, and vitamins. After 4 weeks of using the supplement, approximately 47% of women treated with ArginMax reported an increase in the frequency of orgasm compared with approximately 30% of women treated with placebo – a marginally significant group difference. Baseline levels of sexual function were not established among participants, and thus it cannot be determined how many women would have met a clinical diagnosis of anorgasmia. Zajecka and associates<sup>66</sup> reported improvement in orgasm compared with baseline after 12 weeks of treatment with nefazodone, psychotherapy, or combined psychotherapy and nefazodone. The sample comprised depressed women who reported sexual dysfunction including orgasm difficulties. To date, there has been only one published placebo-controlled study of sildenafil for female anorgasmia.<sup>67</sup> In this study, 50 sexually healthy women (aged 19–38 years) were randomized to receive either 4 weeks' treatment with a selective phosphodiesterase type 5 inhibitor followed by a 2-week washout period and 4 weeks placebo, or the reverse sequence. The selective phosphodiesterase type 5 inhibitor significantly increased orgasmic function compared to both baseline and placebo.<sup>67</sup> Further placebo-controlled studies are needed to examine whether selective phosphodiesterase type 5 inhibitors facilitate orgasmic function in women diagnosed with female orgasmic disorder.

A number of studies have examined the effects of pharmacologic agents in treating antidepressant-induced anorgasmia. Because sexual dysfunction is itself associated with depression, a major weakness of research on antidepressant-induced sexual dysfunction is the inability to distinguish between dysfunction secondary to the depression or to the medications used to treat the depression. Furthermore, it is not known whether these agents would have the same treatment outcome effect on non-drug-induced versus drug-induced anorgasmia. These drugs include antiserotonergic agents, such as cyproheptadine, buspirone, mirtazapine, and granisetron; dopaminergic agents, such as amantadine, dextroamphetamine, bupropion, methylphenidate, and pemoline; adrenergic agents, such as yohimbine and ephedrine; cholinergic agents, such as bethanechol; and the selective phosphodiesterase type 5 inhibitor (see Chapters 14.1–14.2).<sup>36</sup> Numerous case reports and open-label studies report success in alleviating selective serotonin reuptake inhibitor-induced anorgasmia with some of these agents. Findings from the few placebo-controlled studies published are less optimistic.

In a 12-week study (4-week assessment period; 8-week treatment) conducted on premenopausal women with fluoxetine-induced sexual dysfunction, Michelson et al. compared the



Table 11.4.2. Controlled outcomestudies for pharmacologic treatment of orgasm dysfunction

Reference	n	Subject characteristics	Antidepressant	Definition of anorgasmia	Treatment	Outcome
<b>ArginMax</b> Ito et al. <sup>65</sup>	77	M age = 43; 6 subjects with previous sexual dysfunction	N/A	Orgasm function assessed with Female Sexual Functioning Index	ArginMax herbal supplement for 4 weeks vs placebo	47% of ArginMax tx improved orgasm function at 4 weeks vs 30% in placebo
<b>Bupropion</b> Masand et al. <sup>73</sup>	Bupropion (n = 15) Placebo (n = 15)	Impairment of sex drive, arousal and/or vaginal lubrication	N/A	Impairment in orgasm and orgasm satisfaction assessed via Arizona Sexual Experiences Scale	Sustained release (SR) bupropion (150 mg) daily for 3 weeks vs placebo daily for 3 weeks	No difference bupropion vs placebo
Modell et al. <sup>64</sup>	20	21–54 years old; healthy	N/A	Self-reported secondary anorgasmia: inhibited or delayed orgasm	3 weeks placebo dose, 3 weeks SR bupropion (150 mg) once daily plus placebo dose, 3 weeks SR bupropion (150 mg) twice daily	No improvement in orgasm, satisfaction, or intensity beyond placebo with either 150- or 300-mg doses
<b>Buspirone</b> Landen et al. <sup>69</sup>	Buspirone (n = 16) Placebo (n = 11)	Major depressive disorder; decreased libido; orgasmic dysfunction (n = 19)	Citalopram (min 40 mg/day) or paroxetine (min 30 mg/day)	Orgasm dysfunction assessed in interview via Udvalg for Kliniske Undersogelser Scale	Buspirone (20–60 mg/day) for 4 weeks vs placebo; SSRI continued during tx	8/15 showed remittance of sexual dysfunction at 4 weeks (change in orgasm function not specified)
<b>Buspirone, Amantadine</b> Michelson et al. <sup>68</sup>	Buspirone (n = 19) Amantadine (n = 18) Placebo (n = 20)	Depression; anxiety; obsessive compulsive disorder; PMS; decreased arousal and pleasure; premenopausal or estrogen therapy	Fluoxetine dosage by group: B (31.4 mg/day), A (28.4 mg/day), and P (25.7 mg/day)	Impaired orgasm, assessed by clinician, self-report, daily diary, and Interview Rating of Sexual Function Scale	Baseline and 4-week dose, respectively: amantadine (50, 100 mg/day) buspirone (20,30 mg/day) vs placebo; fluoxetine continued during tx	Improved orgasm with tx and placebo; no difference tx vs placebo
<b>Ephedrine</b> Meston <sup>72</sup>	19	Female sexual arousal disorder with complaints of decreased orgasm	Fluoxetine, sertraline, or paroxetine; min. 10 weekd	Orgasmic ability, intensity/pleasure assessed via self-report	Two wk baseline, 8-week crossover design placebo vs 50 mg ephedrine 1 h prior to sexual activity	Improved orgasm intensity/pleasure with ephedrine tx and placebo; no difference in orgasm tx vs placebo
<b>Ginkgo biloba</b> Kang et al. <sup>71</sup>	<i>G. biloba</i> (n = 4) Placebo (n = 6)	<i>G. biloba</i> group: M age = 47; placebo group: M age = 46; depressive or anxiety disorders	Fluoxetine (20 mg/day), paroxetine (20–40 mg/day), or nortriptyline (30 mg/day)	DSM-IV diagnosis of sexual dysfunction; orgasm satisfaction and frequency via self-report and clinical interview	<i>G. biloba</i> at 120 mg/day for 2 weeks, 160 mg/day for following 2 weeks, 240 mg/day for final 4 weeks vs placebo doses on same schedule	No improvement in orgasm frequency or satisfaction with ginkgo vs placebo; 8 weeks: orgasm satisfaction improved with placebo

Subject characteristics	Antidepressant	Definition of anorgasmia	Treatment	Outcome
ie M age = 36; depression; decreased vaginal lubrication	Fluoxetine (20 mg/day or greater)	Self-reported orgasmic inhibition, at least moderate in severity	Random assignment to mirtazapine (15–30 mg/day), yohimbine (5.4–10.8 mg/day), olanzapine (2.5–5 mg/day), or placebo, taken 1–2 h before sex	No differences drug vs placebo in diary or self-report ratings of orgasm function
M age = 27; sexually healthy	N/A	Orgasm function assessed using Personal Experiences Questionnaire	Randomized, crossover study of 4 weeks placebo, 2-week washout, 4 weeks sildenafil (50 mg) or reverse sequence	Significant improvement in orgasm with sildenafil vs placebo

effects of buspirone (20 mg/day;  $n = 19$ ), amantadine (50 mg/day;  $n = 18$ ), and placebo ( $n = 20$ ) on sexual excitement, arousal, and orgasm.<sup>68</sup> Sexual function was evaluated before, during, and after treatment with daily sexual diaries, self-report measures, and clinical interviews. Women in the buspirone, amantadine, and placebo groups all showed improvements in orgasmic ability, and there were no statistically significant differences in improvement between groups. At higher dose levels (mean dose = 47 mg/day), 4-week treatment with buspirone relieved sexual dysfunction in 53% (8/15) of women with sexual dysfunction secondary to citalopram or paroxetine treatment. By comparison, improvements were noted in 18% (2/11) of the women who received placebo.<sup>69</sup> Unfortunately, the specific impact on orgasmic ability was not reported.

In a well-controlled study by Michelson and colleagues,<sup>70</sup> premenopausal women with either anorgasmia or impaired vaginal lubrication secondary to fluoxetine treatment were randomized to 6-week treatment with either placebo ( $n = 39$ ), mirtazapine (30 mg/day;  $n = 36$ ), yohimbine (10.8 mg/day;  $n = 35$ ), or olanzapine (5 mg/day;  $n = 38$ ). Results indicated no significant differences between groups on measures of orgasmic ability. Findings from an 8-week study evaluating the impact of *Ginkgo biloba* versus placebo on antidepressant-induced sexual dysfunction in depressed and anxious women ( $n = 10$ ) revealed no significant difference between groups on measures of sexual dysfunction.<sup>71</sup> Most recently, the impact of 50 mg ephedrine on sexual function was examined in a randomized, double-blind, crossover study in women ( $n = 19$ ) with sexual dysfunction secondary to fluoxetine, sertraline, or paroxetine treatment.<sup>72</sup> Ephedrine showed no significant effect on orgasmic ability beyond placebo.

## Conclusions

In summary, directed masturbation has been shown to be an empirically valid, efficacious treatment for women diagnosed with primary anorgasmia, and may be beneficial for women with secondary anorgasmia who are uncomfortable touching their genitals. If the woman is able to attain orgasm alone by masturbation, but not with her partner, it may prove more beneficial to address issues relating to communication and trust, as well as to ensure that the woman is receiving adequate stimulation either via direct manual stimulation or intercourse positions designed to maximize clitoral stimulation (i.e., coital alignment technique). Anxiety does not appear to play a causal role in female orgasmic disorder; thus, anxiety reduction techniques are best suited for anorgasmic women only when anxiety is coexistent. Sex education, communication skills training, and Kegel exercises may serve as beneficial adjuncts to therapy. Used alone, they do not appear highly effective for treating either primary or secondary anorgasmia. To date, no pharmacologic agents have proven to be beneficial beyond placebo in enhancing orgasmic function in women with diagnosed female orgasmic disorder. Placebo-controlled research is needed to examine the effective-

ness of agents with demonstrated success in open-label trials or among sexually healthy women (i.e., bupropion, granisetron, and sildenafil) on orgasmic function in women with female orgasmic disorder.

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