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Article (Dossier)

Efficacy of Online Coital Alignment Technique in Female Orgasmic Disorder

Carmen Mata Muñoz[1], Gracia M. Sánchez-Pérez[2], Laura Elvira Muñoz-García[2] and Juan Carlos Sierra[2]

[1] Facultad de Psicología, Universidad de Granada, Spain
[2] Centro de Investigación Mente, Cerebro y Comportamiento (CIMCYC), Universidad de Granada, Spain

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ABSTRACT

This study was designed to assess the efficacy of the coital alignment technique applied online in the female orgasmic disorder, in comparison with masturbation coaching, and a waiting list group. Three groups of women who met the diagnostic criteria for female orgasmic disorder (coital alignment, n = 17; masturbation, n = 16; and waiting list, n = 17), ranging in age from 18 to 50 years, were formed. The three groups were assessed across two time points on erotophilia, negative attitudes toward masturbation, attitudes toward sexual fantasies, sexual assertiveness, sexual functioning, sexual satisfaction, and satisfaction with the relationship. Both coital alignment and masturbation were shown to be effective compared to the waiting list group. Coital alignment presented slightly superior results on global sexual functioning, while masturbations were slightly superior on more specific measures of orgasm. Clinical applications of these results in sex therapy are discussed.

Eficacia de la Técnica de Alineación Coital en Línea en el Trastorno Orgásmico Femenino

Palabras clave:
Alineación coital
Masturbación
Trastorno orgásmico femenino
Actitudes sexuales
Funcionamiento sexual

RESUMEN

Este estudio tuvo como objetivo evaluar la eficacia de la técnica alineación coital aplicada en línea en el trastorno orgásmico femenino, en comparación con el entrenamiento en masturbación y un grupo en lista de espera. Se formaron tres grupos de mujeres que cumplían con los criterios diagnósticos del trastorno orgásmico femenino (alineación, n = 17; masturbación, n = 16; y lista de espera, n = 17), con edades comprendidas entre 18 y 50 años. Los tres grupos fueron evaluados en dos momentos temporales en erotofilia, actitudes negativas hacia la masturbación, actitudes hacia las fantasías sexuales, asertividad sexual, funcionamiento sexual, satisfacción sexual y satisfacción con la relación de pareja. Tanto alineación coital como masturbación mostraron ser eficaces en comparación con el grupo de lista de espera. La alineación coital presentó resultados ligeramente superiores en el funcionamiento sexual global, mientras que la masturbación fue ligeramente superior en medidas más específicas del orgasmo. Se discuten las aplicaciones clínicas de estos resultados en la terapia sexual.

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Corresponding author: Juan Carlos Sierra, jcsierra@ugr.es

According to the Diagnostic and Statistical Manual of Mental Disorder (5th TR ed.; American Psychiatric Association, 2022), female orgasmic disorder is characterized by the absence, delay, or marked infrequency of orgasm, or reduced intensity of orgasmic sensations in more than 75% of sexual activities for at least six months. It is categorized as mild, moderate or severe, depending on the degree of distress it causes in the woman's life; as lifelong or acquired, if it has always existed or appeared after a period of relatively normal sexual activity; and as generalized or situational, depending on whether it occurs in all contexts or only with one type of stimulation, person or situation (e.g., only in intercourse, in masturbation, with the current partner, etc.).

Orgasm problems in women are common, with prevalence ranging from 7% to 59%, depending on the population studied (Espitia-De La Hoz, 2019; Kocsis, 2020; Wheeler & Guntupalli, 2020). In healthy Spanish women aged 19-64 years, Montero and Vizcaíno (2017) found that 16.7% had reported some sexual dysfunction, with orgasmic disorder being the second most prevalent after sexual arousal/interest disorder. Also, it was found that in a Spanish sample of patients with depression, 52% of women exhibited orgasmic disorder (Marina et al., 2013).

Female orgasmic disorder has a significant negative impact on women's quality of life (Erdős et al., 2023). The disorder has been related to sexual dissatisfaction and a decrease in perceived sexual self-efficacy, as well as, anhedonia or avoidance of sexual relationships (Rowland & Kolba, 2016), which can affect the quality of the couple's relationship perceived by both partners (Vizcaíno, 2016).

Female orgasm problems can be caused by different physical, psychological, and relational factors; hence their etiology is multifactorial (Delcea, 2021). As explained by Wheeler and Guntupalli (2020), there are several risk factors that predict female orgasmic disorder and, in general, female sexual dysfunction: medical diseases (e.g., diabetes, hypothyroidism, etc.), psychological disorders, fatigue, stress, drug use, menopause, age, environmental, and relationship factors. In addition, orgasmic response depends on the woman receiving adequate physical and mental stimulation during sexual activity (Levin & van Berlo, 2004).

Several variables have been related to orgasmic response. Orgasmic capacity and orgasmic satisfaction have been positively related to sexual attitudes (Lentz & Zaikman, 2021), especially, to attitudes toward sexual fantasies (Driemeyer et al., 2017; Sierra, Gómez-Carranza et al., 2021) and toward masturbation (Driemeyer et al., 2017; Sierra et al., 2023), as well as with sexual assertiveness (Lentz & Zaikman, 2021; Sierra, Arcos-Romero et al., 2021). More specifically, the subjective experience of orgasm has been associated with erotophilia and solitary sexual desire (Arcos-Romero et al., 2022; Cervilla et al., 2023), dyadic sexual desire toward a partner (Arcos-Romero et al., 2022; Arcos-Romero & Sierra, 2020), sexual arousal (Arcos-Romero et al., 2019; Brody et al., 2003), sexual satisfaction and satisfaction with the partner relationship (Arcos-Romero & Sierra, 2020; Leavitt et al., 2023; Mah & Binik, 2005).

There are different types of therapy for female orgasmic disorder. When orgasmic difficulty is caused by psychological and relational factors, the treatment of choice is sex therapy that includes cognitive-behavioral techniques, third-generation therapy and couples therapy (Frühauf et al., 2013; Kocsis, 2020; Marchand, 2021). Psychological interventions have two main advantages over pharmacological therapy: they have no physical side effects and can restore sexual functioning and increase sexual satisfaction beyond a simple reduction of symptomatology (Frühauf et al., 2013).

Sex therapy may be aimed at encouraging changes in attitudes and beliefs, as well as reducing levels of anxiety and depression if they are causing orgasmic difficulty. For this purpose, the techniques with the most evidence are psychoeducation, cognitive restructuring, systematic desensitization, couple communication training and behavioral activation (Frühauf et al., 2013; Mestre-Bach et al., 2022). Other approaches such as mindfulness-based methods are also used (Adam et al., 2019; Mestre-Bach et al., 2022). If the orgasmic difficulty is related to anxiety or fear of sex, the systematic desensitization technique is used in combination with relaxation techniques (Freihart et al., 2022). Another goal of sex therapy for the treatment of female orgasmic disorder is to increase orgasmic capacity and sexual satisfaction. The techniques with the most evidence for achieving that goal are sexual skills training, sex education, sensory targeting, Kegel exercises, direct masturbation, and coital alignment (Marchand, 2021; Meston et al., 2014; Mestre-Bach et al., 2022).

The coital alignment technique involves learning and training a sexual posture for heterosexual couples in which the man's pelvis slowly and rhythmically stimulates his partner's clitoris during intercourse. It combines the "missionary" position with genitally focused pressure-counterpressure stimuli applied in the motion coordination, allowing direct stimulation of the clitoris (Eichel et al., 1988; Hurlbert & Apt, 1995; Pierce, 2000). According to the meta-analysis by Frühauf et al. (2013), on the psychological treatments with the most empirical evidence for each of the sexual dysfunctions, and the reviews by Heiman and Meston (1997) and Labrador and Crespo (2001), guided masturbation training is the sex therapy technique that has shown the best efficacy in women with orgasmic disorder. However, none of these reviews include the coital alignment technique. Unlike other techniques that show results supporting its efficacy, there are only two clinical studies that confirm the efficacy of this technique. Eichel et al. (1988) found that women who received coital alignment training achieved a higher orgasm rate than control women. According to Hurlbert and Apt (1995), both the coital alignment group and the direct masturbation group showed clinically significant results in improving female orgasm during intercourse, although coital alignment had better results.

Given the scarcity of studies and conclusive results on the efficacy of the coital alignment technique, the aim of the present study was to test the efficacy of this technique (applied online) on female orgasmic problems. For this purpose, it was compared with the masturbation technique and a control group. It is expected that women with orgasmic difficulty who receive coital alignment and masturbation as treatment will present better scores in the psychosexual variables evaluated (i.e., erotophilia, negative attitude towards masturbation, positive attitude towards sexual fantasies, sexual assertiveness, sexual functioning, sexual desire, subjective experience of orgasm in the context of

sexual relationships and masturbation, and sexual and partner satisfaction) than those in the control group after treatment. In addition, the following research question is posed: which of the two techniques (i.e., coital alignment and masturbation) will result in greater improvements after their application?

Method

Participants

The sample consisted of 50 women aged 18-50 years (M = 29; SD = 7.71) who met the DSM-5-TR diagnostic criteria for female orgasmic disorder. They were divided into three groups (Figure 1): (1) Coital alignment group, consisting of 16 women with a mean age of 28.06 (SD = 6.63); (2) Direct masturbation group, consisting of 17 women with a mean age of 32.29 (SD = 8.84); and (3) Waiting list group, consisting of 17 women with a mean age of 26.82 (SD = 6.72).

Inclusion criteria were (1) being between the ages of 18 and 50 years, (2) having female orgasmic disorder according to DSM-5-TR criteria, and (3) having a sexual partner of the opposite sex.

Instruments

Sociodemographic and Sexual History Questionnaire. Includes questions on sex, age, nationality, sexual orientation, educational level, number of sexual partners, frequency of sexual relationships and masturbation, age of first sexual relationship, and DSM-5 diagnostic criteria for female orgasmic dysfunction.

Spanish version of Sexual Opinion Survey by Vallejo-Medina et al. (2014). It assesses erotophilia through six items answered on a 7-point Likert scale from *strongly disagree* (1) to *strongly agree* (7). Higher scores indicate more erotophilia. In the present study, the reliability coefficient was .79.

Spanish version of the Negative Attitudes Toward Masturbation Inventory by Cervilla et al. (2021). It measures the negative attitude towards masturbation through 10 items answered on a 5-point Likert scale from 1 (*completely false*) to 5 (*completely true*). Higher scores reflect a more negative attitude towards masturbation. In the present study, the reliability coefficient was .83.

Spanish version of the Hurlbert Index of Sexual Fantasy by Sierra et al. (2020). It consists of 10 items that assess the positive attitude towards sexual fantasies using a 5-point Likert-scale from 0 (*never*) to 4 (*always*). Higher scores indicate more positive attitude toward sexual fantasies. In the present study, the reliability coefficient was .91.

Spanish version of the Sexual Assertiveness Scale by Sierra et al. (2011). It is composed of 18 items answered on a 5-point Likert scale from 0 (*never*) to 4 (*always*), grouped into three factors: Initiation, Refusal and Pregnancy-sexually transmitted disease prevention assertiveness. Higher scores indicate more sexual assertiveness. The first two subscales were used in this study, and their scores showed a reliability of .65 and .83, respectively.

Spanish version of the Female Sexual Function Index by Vallejo-Medina et al. (2018). It evaluates, through 19 items, six dimensions of female sexual functioning (i.e., desire, arousal, lubrication, orgasm, satisfaction, and pain). Higher scores indicate better sexual functioning. In the present study, internal consistency reliability coefficients ranged from .74 to .95.

Spanish version of the Sexual Desire Inventory by Moyano et al. (2017). It consists of 13 items distributed in three subscales: Partner-focused dyadic sexual desire, general dyadic sexual desire for an attractive person, and solitary sexual desire. Its items are answered on a Likert scale with different formats. Higher scores indicate more sexual desire. In the present study, reliability coefficients ranged from .88 to .93.

Spanish version of the Orgasm Rating Scale for the context of sexual relationships by Arcos-Romero et al. (2018). It assesses the subjective experience of orgasm in said context. It consists of 25 items answered on a 5-point Likert scale from 0 (*does not describe it at all*) to 4 (*describes it perfectly*) that are distributed in four factors (Affective, Sensory, Intimacy and Rewards). Higher scores indicate greater intensity of the subjective experience of orgasm. In the present study, reliability coefficients ranged between .89 and .93.

Spanish version of the Orgasm Rating Scale for the context of masturbation by Cervilla et al. (2022). With a format and structure similar to the ORS for sexual relationships, it allows the assessment of the subjective experience of orgasm obtained through masturbation. In the present study, reliability coefficients ranged from .70 to .98.

Spanish version of the Interpersonal Exchange Model of Sexual Satisfaction Questionnaire by Sánchez-Fuentes et al. (2015). The Global Measure of Sexual Satisfaction and the Global Measure of Relationship Satisfaction, whose scores showed good internal consistency reliability indices ($\alpha > .95$), were used in this study.

Procedure

The protocol of this study was approved by the Human Research Ethics Committee of the University of Granada (3478/CEIH/2023). The study is reported following CONSORT guidelines (Schulz et al., 2010).

During the first stage, during May of 2023, the study was distributed through different social media (WhatsApp, Facebook and Instagram). All interested women answered an online survey where they had to provide informed consent. The women who met the criteria were randomly distributed into three groups: coital alignment, masturbation, and waiting list.

In the second phase, the coital alignment and masturbation groups received a specific online intervention program (Table 1). The program had a duration of eight weekly sessions of 90 minutes and was implemented during the months of June and July 2023. The first four sessions were psychoeducational and similar for both groups, the remaining four differed in the sexual technique applied: coital alignment or direct masturbation. The control group remained on the waiting list. The intervention was designed based on Barbach (2014), Eichel et al. (1988), Hurlbert and Apt (1995), Kaplan (1992), and Moyano et al. (2020).

At the end of the intervention, all the participants answered the scales a second time. The control group was offered the possibility of continuing with the program.

Figure 1
Consort Flow Chart of the Selection of Participants

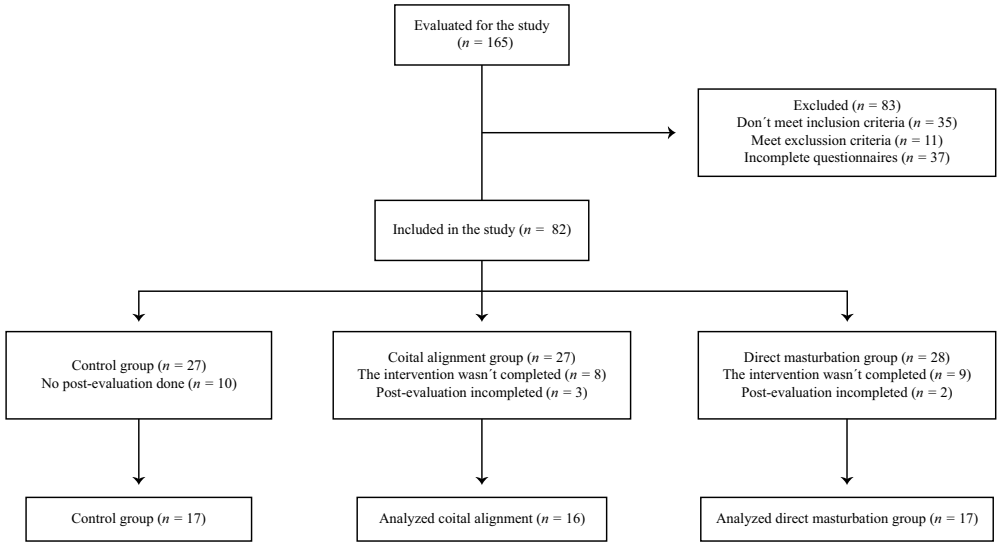


Table 1
Intervention Session Protocol

Session number	Coital alignment group	Masturbation group
1	Presentation of information on the importance and benefits of sexual health.	
2	Addressing of erotophilia/erotophobia and contributing variables, discussion of attitudes towards masturbation and sexual fantasies. Addressing of sexual assertiveness.	
3	Identification of different effective sexual stimuli (e.g., sexual fantasies, games, erotic contexts, sensory stimulation).	
4	Addressing sexual attention through sensory focus exercises.	
5	Explanation of the coital alignment technique.	Addressing the importance of masturbation through the "mirror technique".
6	Automatization of posture and correction of mistakes by modeling through videos.	Masturbation training through video viewing. Training of the masturbation technique during sexual relationships through images and instructions.
7	Automatization of posture and correction of mistakes by role-playing.	
8	Overview of all sessions and clarification of any doubts.	Overview of the sessions and problem solving.

Data Analysis

First, an ANOVA for continuous variables and chi-square for categorical variables were used to compare the groups in the sociodemographic variables age, sexual orientation, educational level, number of sexual partners, frequency of sexual relationships, frequency of masturbation and age at first sexual relationships. A 2 x 3 repeated measures mixed ANCOVA was then performed, controlling age. The within-subject factor was the temporal moment with two levels (pre and post) and the between-subject factor was the group with three levels (control, coital alignment and masturbation). The dependent variables were the scores obtained in erotophilia, negative attitudes towards masturbation, attitudes towards sexual fantasies, sexual assertiveness, sexual functioning (desire, arousal, lubrication, orgasm, satisfaction and pain), subjective experience of orgasm in the context of sexual relationships and masturbation, sexual satisfaction and satisfaction with the partner relationship. Subsequently, Bonferroni multiple comparison post hoc tests were performed to test whether there were differences between pre and post scores in the three groups. To test the effect size of each technique, Cohen's d was calculated: $d \leq 0.20$ low effect size, $d \leq 0.50$ medium effect size, and $d \leq 0.80$ large effect size (Cohen, 1988).

In order to calculate the required sample size, we assumed the use of ANOVA repeated measures within-between interaction, with an alpha of .05 (power = .90). An effect size $d = 0.25$ was selected. With these data, the sample needed was estimated to be 15 participants per group. The program G*power 3 (version 1.9.4) by Faul et al. (2007) was used for these analyses.

Results

No significant differences were observed between the three groups in any of the sociodemographic variables (Table 2).

Sexual Attitudes and Sexual Assertiveness

Significant differences were found in the group and time interaction in erotophilia ($F_{(2, 46)} = 4.11$; $p < .05$; $\eta^2 = .15$), showing a significant change in the coital alignment group ($d = 0.67$). Table 3 and Figure 2.

Sexual Functioning

The results show significant differences in the interaction of group and time in global sexual functioning ($F_{(2, 46)} = 12.56$; $p < .001$; $\eta^2 = .35$) and in its dimensions: lubrication ($F_{(2, 46)} = 6.68$; $p < .01$; $\eta^2 = .23$), orgasm ($F_{(2, 46)} = 8.30$; $p < .001$; $\eta^2 = .27$) and satisfaction ($F_{(2, 46)} = 6.98$; $p < .01$; $\eta^2 = .23$). Significant differences were also observed in partner-focused dyadic sexual desire ($F_{(2, 46)} = 4.81$; $p < .05$; $\eta^2 = .17$), solitary sexual desire ($F_{(2, 46)} = 6.13$; $p < .01$; $\eta^2 = .21$) and sexual satisfaction ($F_{(2, 46)} = 5.65$; $p < .01$; $\eta^2 = .20$). Table 3 and Figure 3.

Table 2

Comparison Between Groups in the Sociodemographic Variables

Sociodemographic variables		Control group	Coital alignment group	Masturbation group	F/χ^2	*p*
Age		26.82 (6.72)	28.06 (6.63)	32.29 (8.84)	1.87	.18
Sexual orientation	Heterosexual	16 (94.1%)	15 (93.8%)	15 (88.2%)	2.01	.73
	Predominantly heterosexual	0	1 (6.3%)	1 (5.9%)		
	Bisexual	1 (5.9%)	0	1(5.9%)		
Nationality	Spanish	17 (100%)	16 (100%)	17 (100%)	8.15	.61
Education level	No studies	2 (11.8%)	2 (12.5%)	0	10.62	.11
	Primary studies	0	0	3 (17.6%)		
	Secondary studies	2 (11.8%)	2 (12.5%)	5 (29.4%)		
	University	13 (76.5%)	12 (75%)	9 (52.9%)		
Number of sexual partners		10.5 (9.56)	5.50 (3.42)	7.76 (19.05)	2.90	.09
Sexual relationships frequency	> 1 time/day	0	0	0	6.97	.73
	1 time/day	1 (6.3%)	2 (12.5%)	1 (6.7%)		
	Sometimes/week	3 (18.8%)	5 (31.3%)	4 (26.7%)		
	1 time/week	4 (25%)	1 (6.3%)	1 (6.7%)		
	Sometimes/month	7 (43.8%)	7 (43.8%)	8 (53.3%)		
	1 time/month	1 (6.3%)	0	1 (6.7%)		
	< 1 time/month	0	1 (6.3%)	0		
Masturbation frequency	> 1 time/day	1 (8.3%)	2 (18.2%)	0	7.05	.53
	1 time/day	3 (25%)	1 (9.1%)	1 (10%)		
	Sometimes/week	3 (25%)	4 (36.4%)	4 (40%)		
	1 time/week	1 (8.3%)	2 (18.2%)	0		
	Sometimes/month	4 (33.3%)	2 (18.2%)	5 (50%)		
	1 time/month	0	0	0		
	< 1 time/month	0	0	0		
Age of first sexual relationship		17.24 (2.82)	16.44 (1.82)	16.24 (1.25)	1.71	.20

Table 3

Repeated Measures Linear Mixed Models and Mean Differences in the Three Groups

		Pre intervention	Post intervention	General Linear Model			Post hoc analysis	
	Group	*M (DT)*	*M (DT)*	*F (g. l.)*	*p*	η^2	*p*	*d*
Erotophilia				4.11 (2, 46)	.023*	.15		
	Control	34.35 (6.44)	33.94 (5.66)				.680	0.67
	Coital alignment	30.31 (7.54)	34.94 (6.25)				< .001***	
	Masturbation	33.00 (7.17)	34.41 (5.26)				.227	
Masturbation attitude				0.59 (2, 45)	.558	.03		
	Control	15.76 (3.98)	15.18 (3.38)					
	Coital alignment	17.53 (5.82)	15.40 (4.20)					
	Masturbation	16.59 (3.35)	14.71 (1.96)					
Sexual fantasies attitude				2.29 (2, 46)	.113	.09		
	Control	27.35 (7.36)	27.00 (7.23)					
	Coital alignment	26.13 (8.37)	28.44 (6.72)					
	Masturbation	26.24 (8.13)	30.00 (6.17)					
Global sexual assertiveness				0.80 (2, 46)	.456	.03		
	Control	32.53 (8.40)	32.47 (9.08)					
	Coital alignment	31.94 (8.00)	33.56 (7.55)					
	Masturbation	31.88 (8.18)	33.53 (7.45)					
Sexual assertiveness initiation				0.67 (2, 46)	.516	.03		
	Control	15.65 (5.63)	15.47 (5.00)					
	Coital alignment	13.88 (5.24)	14.31 (5.30)					
	Masturbation	14.06 (5.65)	15.00 (5.14)					
Sexual assertiveness refusal				0.32 (2, 46)	.730	.01		
	Control	16.88 (5.02)	17.00 (5.66)					
	Coital alignment	18.06 (5.25)	19.25 (3.21)					
	Masturbation	17.82 (4.95)	18.53 (3.91)					
Global sexual functioning				12.56 (2, 46)	< .001***	.35		
	Control	63.29 (8.09)	61.12 (10.43)				.198	
	Coital alignment	55.25 (10.50)	67.38 (8.44)				< .001***	1.27
	Masturbation	62.06 (11.49)	71.06 (7.96)				< .001***	0.91

Table 3
Repeated Measures Linear Mixed Models and Mean Differences in the Three Groups (Continued)

Sexual functioning desire				0.99 (2, 46)	.381	.04		
	Control	6.12 (1.80)	6.88 (1.87)					
	Coital alignment	5.31 (2.09)	6.63 (1.93)					
	Masturbation	6.35 (1.73)	7.35 (1.27)					
Sexual functioning arousal				2.75 (2, 46)	.075	.11		
	Control	10.71 (3.18)	13.41 (3.16)					
	Coital alignment	10.00 (3.86)	14.50 (2.61)					
	Masturbation	10.35 (3.92)	14.47 (2.76)					
Sexual functioning lubrication				6.68 (2, 46)	.003**	.23		
	Control	15.35 (3.71)	14.00 (4.65)				.063	
	Coital alignment	15.19 (4.35)	16.88 (3.96)				.022*	0.41
	Masturbation	16.00 (3.10)	18.00 (1.58)				.008**	0.81
Sexual functioning orgasm				8.30 (2, 46)	< .001***	.27		
	Control	8.82 (3.41)	8.82 (3.47)				.627	
	Coital alignment	6.63 (2.78)	10.00 (2.99)				<.001***	1.17
	Masturbation	9.00 (2.50)	11.82 (2.07)				< .001***	1.23
Sexual functioning satisfaction				6.98 (2, 46)	.002**	.23		
	Control	10.82 (2.67)	10.53 (3.26)				.586	
	Coital alignment	9.13 (2.87)	11.69 (2.21)				< .001***	0.99
	Masturbation	9.76 (2.77)	12.18 (2.88)				< .001***	0.86
Sexual functioning pain				0.35 (2, 46)	.71	.02		
	Control	8.00 (1.66)	7.47 (2.43)					
	Coital alignment	7.75 (1.48)	7.69 (1.25)					
	Masturbation	7.53 (1.07)	7.24 (.56)					
Partner-focused sexual desire				4.81 (2, 46)	.013*	.17		
	Control	34.53 (9.83)	34.53 (9.63)				.890	
	Coital alignment	32.63 (10.25)	37.00 (8.30)				.009**	0.47
	Masturbation	32.88 (10.56)	39.12 (6.40)				< .001***	0.71
Sexual desire for an attractive person				0.68 (2, 46)	.512	.03		
	Control	8.65 (3.64)	8.88 (3.37)					
	Coital alignment	6.75 (4.28)	7.94 (4.09)					
	Masturbation	8.59 (4.05)	9.06 (3.01)					
Solitary sexual desire				6.13 (2, 46)	.004**	.21	.983	
	Control	17.00 (8.07)	17.24 (7.34)				< .001***	0.79
	Coital alignment	11.81 (9.28)	18.81 (8.31)				< .001***	0.85
	Masturbation	15.12 (7.41)	20.18 (4.07)					
Subjective experience of orgasm				1.92 (2, 46)	.166	.13		
Sexual relationships	Control	79.00 (21.22)	80.09 (22.02)					
	Coital alignment	54.17 (24.70)	69.33 (22.42)					
	Masturbation	76.62 (22.17)	90.92 (12.51)					
Subjective experience of orgasm masturbation				1.08 (2, 46)	.355	.08		
	Control	68.67 (17.14)	73.17 (15.80)					
	Coital alignment	70.21 (26.37)	81.86 (13.76)					
	Masturbation	64.90 (27.40)	66.44 (19.44)					
Sexual satisfaction				5.65 (2, 46)	.006**	.20	.177	
	Control	26.18 (5.88)	24.41 (8.35)				.005**	0.66
	Coital alignment	22.31 (7.51)	27.06 (6.96)				.016*	0.53
	Masturbation	23.94 (7.08)	27.35 (5.57)					
Relationship satisfaction				0.86 (2, 46)	.431	.04		
	Control	27.00 (7.56)	26.27 (9.10)					
	Coital alignment	26.56 (6.90)	28.19 (6.45)					
	Masturbation	27.00 (5.76)	28.44 (4.87)					

Note. *p< .05; **p<.01; ***p<.001.

Figure 2

Erotophilia Scores Before and After the Intervention in the Three Groups

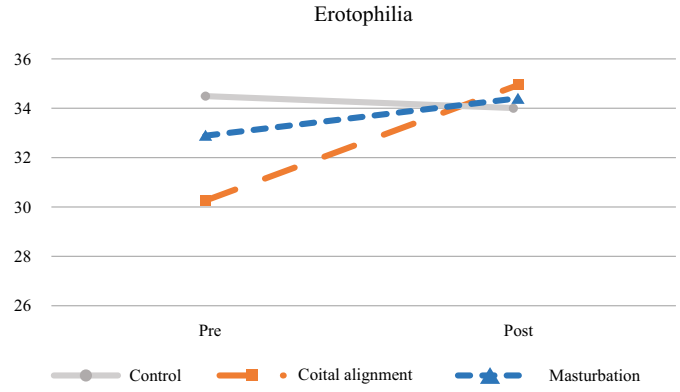
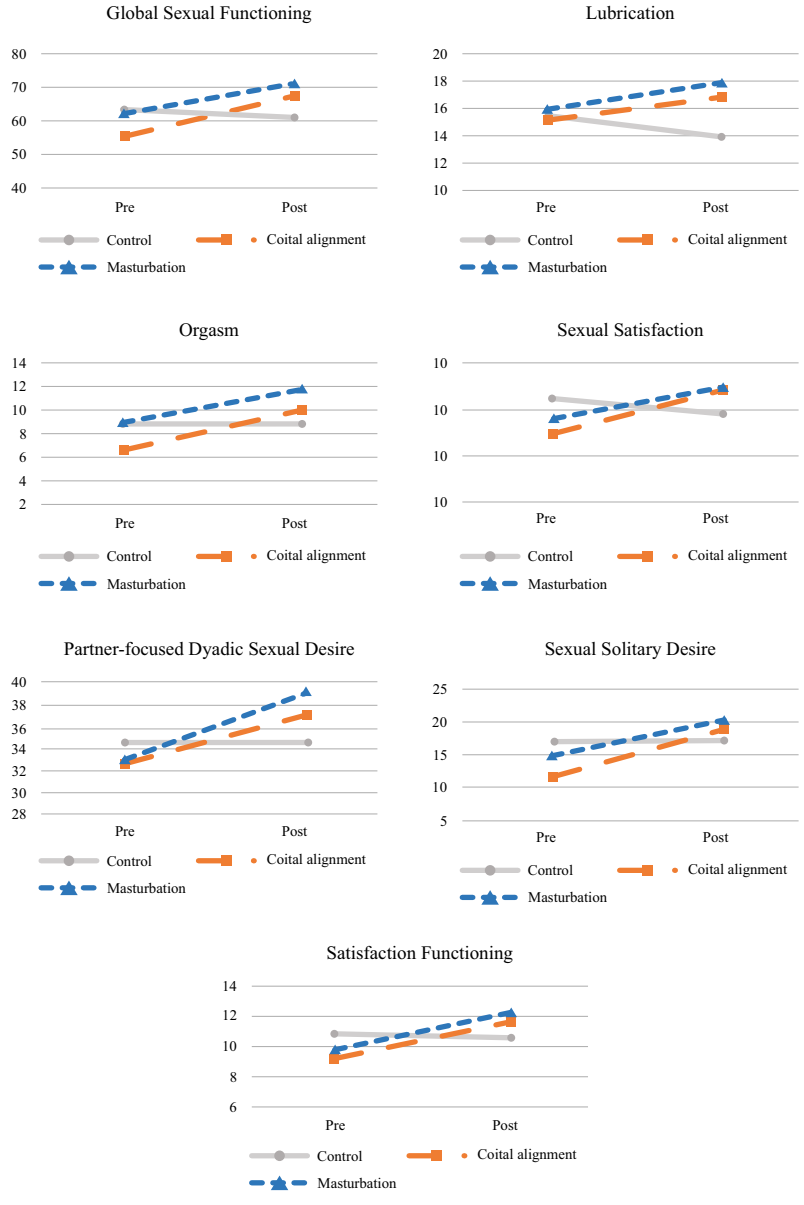


Figure 3

Sexual Functioning Scores Before and After the Intervention in the Three Groups



Discussion

The purpose of this study was to assess the efficacy of the coital alignment technique applied online to improve female orgasmic disorder. For this purpose, it was compared with masturbation training - a technique that has shown the greatest efficacy in female orgasmic disorder (Frühauf et al., 2013; Labrador & Crespo, 2001) - and with a group of women on a waiting list.

The results indicate that, after receiving the intervention, the coital alignment and masturbation groups significantly improved their global sexual functioning (and its components lubrication, orgasm and satisfaction), partner-focused dyadic sexual desire, solitary sexual desire and sexual satisfaction. These findings indicate that both coital alignment and masturbation are effective techniques for improving orgasmic capacity in women with female orgasmic disorder. Erotophilia was only increased in the coital alignment group.

In the dimensions in which both techniques were effective, coital alignment provided better results in global sexual functioning (and its satisfaction component) and in sexual satisfaction. On the other hand, masturbation training led to better results in the lubrication and orgasm components of global sexual functioning, as well as in partner-focused dyadic sexual desire and solitary sexual desire. These results seem to indicate that both techniques are effective in improving sexual functioning, although masturbation training shows slightly superior results on more specific aspects of sexual response, whereas coital alignment is better on the more global dimensions of sexual functioning and satisfaction. This finding could be associated with the fact that masturbation has a more individual nature, resulting in a more direct psychophysiological stimulation responsible for the arousal, lubrication and orgasm (Arias-Castillo et al., 2023), while coital alignment, by involving the partner, in addition to psychophysiological stimulation, develops other emotional and attitudinal factors between both partners (Eichel et al., 1988), which would have consequences on more general aspects of sexual relations and sexual satisfaction. On the other hand, the improvement of partner-focused dyadic sexual desire and solitary sexual desire as opposed to the non-improvement of dyadic sexual desire for an attractive person, is consistent with the results of Moyano et al. (2017) and Peixoto (2019) on the relationship between dyadic sexual desire towards an attractive person and sexual dissatisfaction, as well as, with the lack of relationship between dyadic sexual desire towards an attractive person and sexual arousal in women (Sierra et al., 2019). Furthermore, the enhancement of solitary sexual desire, with a greater increase in the masturbation group, supports the findings of Cervilla et al. (2023) on the importance of solitary sexual desire in explaining the orgasm response in the context of masturbation.

The results found are in line with some of the conclusions drawn by Hurlbert and Apt (1995) on the efficacy of both techniques (i.e., masturbation training and coital alignment) for the treatment of female orgasmic disorder, although in the present study there is not such a marked difference showing better results of coital alignment over masturbation. Probably, the greater difference in efficacy shown by coital alignment over masturbation in Hurlbert and Apt's (1995) study may be due to the fact that the women in their study did not have female orgasmic disorder. Our results support the conclusions of Marchand (2021) on the possibility that coital alignment may be useful in women with female orgasmic disorder, although they also support the efficacy of masturbation, as concluded in the meta-analysis Frühauf et al. (2013) or the reviews by Heiman and Meston (1997) and Labrador and Crespo (2001). It would be desirable to compare the efficacy of different techniques that have empirical evidence used in the treatment of female orgasmic dysfunction, especially those involving direct training in sexual skills, as explained by Frühauf et al. (2013).

Neither coital alignment nor masturbation were effective in improving specific sexual attitudes towards masturbation and sexual fantasies, sexual assertiveness, arousal and subjective experience of orgasm in sexual relationships and masturbation, and satisfaction with the couple's relationship. This could be due to the fact that we did not work directly on these variables. Regarding the lack of improvement in sexual assertiveness, this could be due to the fact that, although training was given in the emission of assertive responses to different situations, the fear of negative evaluation and disapproval by the partner was not studied in depth, as recommended by Klein et al. (2019). The lack of improvement in arousal may be explained by the way it was assessed, considering it as a general dimension of sexual functioning rather than using instruments that have more impact on its state manifestation as do the rating of sexual arousal and rating of genital sensations, which assess sexual arousal in a specific situation (Sierra et al., 2017). The short time between the two assessments could also have contributed to this lack of increase in arousal as a component of sexual functioning. The reason why the subjective experience of orgasm in sexual relationships and masturbation did not improve could also be the short time between the two measures; further follow-up could show more conclusive results on the women's perception of their subjective experience of orgasm. Finally, the lack of improvement in relationship satisfaction may be due to the fact that women's relationship satisfaction was already high to begin with. The lack of medium- and long-term follow-up after the interventions, in order to establish the stability and gains produced by the treatments, is one of the main problems of studies evaluating the efficacy of psychological treatments for sexual dysfunctions (Labrador & Crespo, 2001). Follow-up measures at four and six months are known to provide solid and conclusive data in women with sexual dysfunctions (Labrador & Crespo, 2001).

The clinical implication derived from the results found is that both training in coital alignment and direct masturbation are valuable techniques for the treatment of female orgasmic disorder. Thus, in the context of sex therapy, when it is identified that the orgasmic difficulty in women with heterosexual partners is mainly found in coital intercourse, the use of coital alignment can be assessed with the same safety that masturbation offers. On the other hand, since the online application of both techniques has proven effective, it could be useful for the treatment of female orgasmic disorder. Sometimes face-to-face therapy is not possible and online therapy is cheaper, flexible, and a practical alternative with supported efficacy for sexual dysfunctions and other problems (Trimpop et al., 2023; Zarski et al., 2022).

This study has some limitations. In the first place, a follow-up measurement was not performed months after the end of the program to determine how well the intervention had been established and to be able to obtain more conclusive results. On the other hand, it is advisable that future research, in addition to comparing the efficacy of the different techniques for the treatment of female orgasmic

dysfunction, should do so without a previous psychoeducation module, such as the one included in the first four sessions of the program of both experimental groups, and that psychoeducation should be one more technique to be compared.

Conclusions

Coital alignment and masturbation techniques (applied online) for the treatment of female orgasmic disorder are effective compared to the waiting list. Coital alignment shows slightly superior results on more global sexual functioning, while masturbation shows slightly superior results on more specific measures of sexual response.

Conflicts of Interest

The autors declare no conflict of interest.

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