How do women experience dyadic sexual activities at the attentional level? A qualitative study comparing anorgasmic and orgasmic women

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ABSTRACT — *This qualitative study aims to gain a deeper understanding of the attentional mechanisms in anorgasmic and orgasmic women during dyadic sexual activities. Seven women aged 21 to 40 (M = 31.57, SD = 7.27) completed several questionnaires and participated in a semi-structured interview. The thematic analysis revealed that anorgasmic women exhibit attentional biases that may contribute to the onset and persistence of orgasmic dysfunction: 1) Attention directed towards non-erotic stimuli in the sexual relationship, 2) Attention focused on mental rumination, and 3) Attention directed towards dysfunctional cognitions. In contrast, orgasmic women employ attentional strategies that facilitate orgasm: 1) Attention directed towards bodily sensations, 2) Attention focused on erotic fantasies, and 3) Redirecting attention towards erotic stimuli. In conclusion, the attention of anorgasmic women appears to be captured by attentional biases, while orgasmic women concentrate on the present moment (erotic and pleasurable stimuli). Therefore, it is crucial to assess attentional resources to enhance future interventions.*

Introduction

Sexual health is fundamental to women's health and well-being (WHO, 2024). However, research indicates that 10 to 42% of women experience orgasmic disorders or anorgasmia (Graham, 2010), with 10% reporting never having achieved orgasm in their lifetimes (Laumann *et al.*, 1994). Orgasmic disorder stands as the second most prevalent female sexual difficulty observed in sexual clinics. Approximately 24% of women have encountered either lifelong (primary anorgasmia) or tempory orgasm inhibition (secondary anorgasmia; Laumann *et al.* 1994). Defined as the "repeated or persistent absence or delay of orgasm after a phase of normal sexual arousal, with considerable variability in the type or intensity of stimulation required for orgasm in women" (APA, 2000, p. 632), orgasmic disorder necessitates a comprehensive diagnosis. This involves considering factors such as the woman's age (APA, 2000), her social, educational, and

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cultural background, relationship conflicts, as well as potential feelings of shame and guilt stemming from religious beliefs or family prohibitions (Meston *et al.* 2004). Long-term implications of this sexual disorder include the potential to significantly impact women's quality of life, leading to emotional distress and tension within the couple (IsHak *et al.*, 2010).

In accordance with the information processing model of sexual response proposed by Janssen and colleagues (2000), sexual stimuli are subject to evaluation along sexual (*e.g.*, pleasure, desire) or non-sexual (*e.g.*, absence of desire, fear) dimensions. The assessment of sexual stimuli involves two distinct components: 1) a rapid and unconscious genital response; followed by 2) a slower, awareness-dependent subjective sexual arousal (Laan *et al.*, 2005; Janssen *et al.*, 2000). Basson's (2002) model of the female sexual response emphasizes the significance of subjective sexual arousal in achieving orgasm. In the context of emotional intimacy, women are more likely to perceive stimuli in an erotic or sexual manner, thereby facilitating orgasm attainment. Recognizing the subjective experience of orgasm becomes crucial for comprehending the psychological mechanisms associated with orgasm, a viewpoint supported by various authors (*e.g.*, Graham, 2010; Lopès & Poudat, 2007; Mah & Binik, 2001; Meston *et al.* 2004; Porto, 2009; Rosen & Beck, 1988). Despite the physiological aspects of orgasm falling short of providing a comprehensive explanation, the psychological aspects, particularly cognitive factors, remain insufficiently investigated, underscoring the important role they play in a woman's sexual response.

The literature review by Tavares and colleagues (2020) underscores the pivotal role of cognitive factors, particularly in the context of sexual response and the achievement of orgasm. Women suffering from orgasm disorders activate significantly more cognitive schemas of incompetence and loneliness in situations of failure. Additionally, they manifest an increased prevalence of negative automatic thoughts, specifically those related to failure and disengagement, alongside the activation of negative beliefs linked to a poor body image (Nobre & Pinto-Gouveia, 2008a). Conversely, these individuals appear to have notably fewer erotic thoughts (Cuntim & Nobre, 2011; Nobre & Pinto-Gouveia, 2008b; Tavares *et al.*, 2017). Another study (De Sutter *et al.*, 2014) shed light on the relationship, suggesting that anorgasmic women might not inherently possess fewer erotic thoughts but rather utilize them less frequently during intimate activities with their partners. Negative thoughts and ensuing emotions can monopolize cognitive resources for women, diverting their focus from the present moment. Consequently, this interference affects their ability to perceive physical sensations and diminishes their interoceptive awareness (Basson, 2002; Janssen *et al.*, 2000). Several studies (Cuntim & Nobre, 2011; Dove & Wiederman, 2000) consistently report a significant association between orgasm disorders and cognitive distraction.

The importance of 'focusing attention' during sexual encounters was initially recognized by Masters and Johnson (1970), who introduced the term "*spectatoring*" to underscore the lack of attention devoted to sexual activities. Similarly, Barlow (1986) contributed the concept of cognitive interference to describe individuals who become distracted during sexual activity, diverting their focus to non-erotic cues. His research indicated that sexually functional individuals tend to concentrate their attention on erotic and sexual stimuli, thereby enhancing sexual arousal. Attention plays a crucial preparatory role in information processing, equipping individuals to effectively engage in a task. It involves the mind's concentration on a specific task, selecting relevant stimuli while inhibiting other aspects of the experience. In doing so, attention acts as a filter, suppressing distractors from both the environment and the individual (Sieroff, 1998). However, during sexual activity, women generally exhibit a lower ability to inhibit non-sexual stimuli compared to men (Dewitte, 2016).

According to Gopher and Iani (2003), attention serves as the spotlight, orchestrating the entry of stimuli into consciousness through a combination of bottom-up and top-down processes. The former entails the involuntary direction of attention toward stimuli from the environment, such as a partner's expressions of love. In contrast, the top-down process is more deliberate, involving voluntary focus with a specific goal, for instance, watching an erotic film for arousal. Regarding sexuality, research by Spiering and Everardo (2007) demonstrates that attention can be directed either unconsciously or voluntarily to sexual stimuli, either in the environment or self-initiated.

This suggests the involvement of both bottom-up and top-down processes in the context of sexuality.

Contemporary sexual response models highlight the pivotal role of attentional processes in the progression of sexual arousal (Dewitte, 2016; Janssen *et al.*, 2000). However, there remains a gap in understanding the specific attentional mechanisms at play. In this study, we employed a qualitative design to address the query: "How do anorgasmic and orgasmic women differ in their experience of dyadic sexual activities at the attentional level?"

Method

Participants

Seven women aged 21 to 40 years (M=31.57, SD=7.27) completed several questionnaires and participated in a semi-structured interview. The inclusion criteria for selecting the sample comprised 1) being in a relationship, 2) residing in Belgium, and 3) being free of medication (*i.e.*, antidepressants, anxiolytics, or sleeping pills). The participants were allocated to either the "anorgasmic" clinical group (N = 4) or the "orgasmic" control group (N = 3). To control for the presence of an orgasm disorder, participants were defined as anorgasmic by the score of the 'orgasm' subscale and the Female Sexual Function Index total sexual function score of 26.55 (Wiegel *et al.*, 2005). In addition, FSFI scores and clinical interviews were compared with DSM-V criteria (APA, 2013) to verify the validity of the orgasmic disorder diagnosis.

Recruitment and procedure

Participants were recruited online from February to March 2014, by means of a call for participants posted on various websites and social networks. The survey contained an informed consent form and multiple questionnaires. Eighty-three women provided their details to be later contacted for a semi-directive interview, and 44 of them met the selection criteria. The latter were contacted by email to schedule an interview at the Université Catholique de Louvain. Given a lack of response, we followed up with the proposal of conducting the interview through Skype or at their own home. Seven women agreed to be interviewed between May and June 2014. The study was approved by the Ethics Committee of the Psychological Sciences Research Institute (Study number: 2012-48).

Interviews

An individual semi-structured interview was conducted with each participant either by a master's student in Family and Sexual Sciences or by a Psychological Sciences doctoral student. An interview guide was elaborated to explore the research question with each participant (see Appendices 1 and 2). This design is advantageous in that it is non-directive and enables interactions between the participant and the researcher. The interviews took place at an office within the Université catholique de Louvain or at the participant's house. The duration of the interviews ranged from 45 minutes to 2 hours. Prior to each, the participants agreed to the recording of the interview using a voice recorder and to its transcription. The interview guide and all scripts are available upon request.

Data analysis

The interviews were analyzed following the Grounded theory approach (Glaser & Strauss, 1967) to produce a theoretical explanation of the research question. The transcripts were read several times to identify the most frequently cited themes. Anorgasmic women's testimonies were compared to that with no sexual difficulties, in order to better understand the differences between them at the attentional level.

Measures

Female Sexual Function Index, FSFI

The Female Sexual Functioning Scale or FSFI (Rosen *et al.* 2000) is a measure of female sexual functioning, composed of six subscales: desire (2 items), arousal (4 items), lubrication (4 items), orgasm (3 items), sexual satisfaction (3 items), and sexual pain (3 items). The self-report questionnaire comprises 19 items answerable on a 6-point Likert scale items ranging from 0 (no sexual activity) to 5 (very high or very often), or from 1 (almost never or never) to 5 (almost always or always). To calculate the score for each subscale, the sum of the respective items are obtained and multiplied by the subscale's factor. The total score refers to the sum of the scores of all six subscales. A total score

that lies below 26.55 indicates the presence of sexual dysfunction. The scale has a high internal validity of 0.86, a validity which was confirmed within our sample (α = 0.92). Chronbach's alphas of the subscales ranged from 0.71 to 0.99 for the orgasm subscale. Thus, the scale is a reliable measure for distinguishing clinical levels of sexual difficulties among women.

Female Sexual Distress Scale – Revised, FSDS-R

The Female Sexual Distress Scale (FSDS-R; Derogatis *et al.* 2008) provides a quantitative, standardized measure of personal sexual distress in women. The questionnaire is composed of 13, 5-point Likert-scale items (0 = never, 1 = rarely, 2 = often, 3 = very often, 4 = always). A total score above 11 indicates sexual distress. The scale has high internal validity of .86, which was replicated in our sample (α = 0.91). This scale appears to be a reliable tool for differentiating between women with or without sexual distress. It was translated into French through a back-translation procedure. One researcher independently translated the scale into French, after which a second translated it back to English, which limited translation errors in the original version.

Results

Descriptive analyses

Our clinical sample consisted of seven sexually active women with a frequency of dyadic sexual activity ranging from six to more than 10 times per month. Four women aged 21 to 38 (M = 31, SD = −7.43) had a diagnosis of anorgasmic disorder, with three suffering from primary anorgasmia and one from secondary anorgasmia. The control group consisted of three women aged 23 to 40 (M = 32.33, SD = 8.62) with no sexual difficulties. All women were heterosexual, medication-free, in a relationship for at least six months, and with a high educational level (bachelor's or master's degree). As presented in *table 1*, samples across the two conditions did not significantly differ in terms of age, relationship duration, level of education, and frequency of sexual activity without the partner. However, anorgasmic women (M = 4.50, SD = 0.57) were significantly more sexually active with their partner than orgasmic women were (M = 3.33, SD = 0.57), $t(5) = 2.646$, $p<0.05$).

After checking for significant outliers, normality (*i.e.*, kurtosis and skewness statistics), and homogeneity of

Table 1. **Differences in means between anorgasmic and orgasmic women.**

	Anorgasmic (N = 4)		Orgasmic (N = 3)			
Measures	M	SD	M	SD	t	ddl
Age	31	7.43	32.33	8.62	−0.220	5
Education	4.25	0.50	5.00	0.000	−2.535	5
Relationship length	75.25	91.71	49.66	47.28	0.435	5
Frequency of sexual activity with the partner	4.50	0.57	3.33	0.57	2.646*	5
Frequency of sexual activity without the partner	2.25	2.06	1.33	1.52	0.643	5
Sexual functioning – Total FSFI	22.17	5.23	29.96	3.64	−2.187	5
Sexual desire – FSFI	4.65	0.75	4.20	1.58	0.507	5
Sexual arousal – FSFI	3.75	1.33	5.30	0.45	−1.896	5
Lubrication – FSFI	4.27	1.59	5.40	0.60	−1.140	5
Orgasm – FSFI	1.60	0.56	5.06	1.28	−4.914**	5
Sexual satisfaction – FSFI	3.50	1.10	5.20	0.40	−2.501	5
Pain – FSFI	4.40	1.17	4.80	1.74	−0.366	5
Sexual distress – Total FSDS-R	41.50	2.38	20.33	6.11	6.474**	5

M = Mean. SD = Standard Deviation. FSFI= Female Sexual Function Index: higher FSFI scores reveal a better sexual functioning. FSDS-R = Female Sexual Distress Scale – Revised: higher FSDS scores indicate higher sexual distress.
***p <.001; **p <.01; *p <.05

variances, we applied t-test measure using SPSS 22 to compare the two groups. With respect to the FSFI scale, the two groups were only significantly different on the orgasm subscale. Women in the clinical anorgasmic group (M = 1.60, SD = 0.56) scored lower than those in the control group (M = 5.06, SD = 1.28), $t(5) = -4.914$, $p<0.05$. These results indicate a significant difference between the two in terms of orgasm attainment and confirm the absence of any other sexual dysfunctions. In addition, women in the clinical group (M = 41.50, SD = 2.38) also scored higher on the total FSD-R compared to controls (Wiegel *et al.*, 2005; M = 20.33, SD = 6.11), $t(5) = 6.473$, $p<0.001$). This shows that women suffering from anorgasmia reported more sexual distress than orgasmic women did.

How do anorgasmic women experience dyadic sexual activities at the attentional level?

The thematic analysis of all interviews highlighted three attentional biases that were frequently reported by anorgasmic women: (1) attention directed towards non-erotic stimuli of the sexual activity, 2) attention oriented towards mental ruminations, and 3) attention directed towards dysfunctional cognitions (*table 2*).

Attention directed towards non-erotic stimuli of the sexual activity

Throughout the interviews, women most frequently reported an attentional bias towards non-erotic stimuli. These originated directly from the woman herself (*e.g.*, pain) or from the partner (*e.g.*, inappropriate gestures or words)

First, all anorgasmic women in our study (N=4) indicated being distracted by either the partner's (a) specific behaviors that did not correspond to their sexual expectations (*e.g.*, sexual stimulation, gestures or words), or (b) their lack eroticization (*e.g.*, cleanliness or attitude). Several testimonies can illustrate this focus of attention:

"The slightest gesture that doesn't suit me reminds me, at that moment, to tell myself that no [you will not reach orgasm]." "All it takes is one sentence, I don't remember what it was he told me the last time. He told me something but I don't know what it was, but we stopped. Even though things were going very well."

Second, most anorgasmic women (N=3) attested that their attention was often drawn to their own non-erotic bodily sensations, emotions, or thoughts.

"It's fragile because if there's a feeling that's a little less pleasant, it will take up all the space. That's it, in term of imagination, also." "If I start making noise when it wasn't time to make noise, it breaks it for me a little... I'm not into it so it disconnects me, actually."

Attention oriented towards mental ruminations

Anorgasmic women also tend to focus on their mental ruminations during dyadic activities. This is characterized by thinking, evaluating, commenting on what they are experiencing with their partner, keeping control on their feelings, or sometimes anticipating sexual relations. They explain that their attention is mobilized by a constant mind chatter, which they cannot put to rest (*table 2*): "I stay a little stuck in that way of thinking, during the sexual act and therefore I have the impression, at least for me, that I am part of precisely those who overthink." "I ask for that, to concentrate, but I don't know what to do, I don't know what to tell myself at the very moment, I don't see what I should tell myself. I say to myself don't think about it." "My mind works too much, I have the impression, compared to what is happening."

Table 2. **Attentional biases most often experienced by anorgasmic women.**

Themes	Categories	Number of participants
(1) Attention directed towards non-erotic stimuli of the sexual activity	From the partner	4 women
	From the self	3 women
(2) Attention oriented towards mental ruminations	Mind chattering, evaluation, anticipation...	4 women
	Avoidant coping strategies	2 women
(3) Attention directed towards dysfunctional cognitions	Cognitive patterns of incompetence	3 women
	False beliefs	2 women

Attention directed towards dysfunctional cognitions

Finally, anorgasmic women have a greater tendency to focus their attention on dysfunctional cognitions, including activating cognitive patterns of incompetence in reaching orgasm, catastrophizing the problem itself, and maintaining false beliefs about sexuality (*table 2*). Indeed, most anorgasmic women (*N*=3) testify being distracted by these patterns of incompetence: "I think that concretely, this is what it is. I will again experience frustration, in a sense. (...) the fact that I can no longer reach orgasm. (...) But no, you won't, and no, it's not going to work." "It somewhere in the back of my mind that it won't come. (...) not to experience too much pleasure, to be conditioned to not have too many orgasms. As a result, my body may function this way, it stops automatically." "I don't think it's going to get any better because it's been a year..."

With respect to the false beliefs, half of the anorgasmic women (*N*=2) argue that orgasms must originate from vaginal penetration, a belief that is also endorsed by the partner: "I actually used to really see orgasms by penetration only." "He is under the impression that to give me a true orgasm, it must be through penetration... with his genital."

Additionally, some anorgasmic women will resort to avoidance-based strategies to deal with unpleasant sexual situations. For example, half of the women (*N*=2) explained that they sometimes use specific substances (*e.g.*, cannabis) to put their mind to rest and to reduce their mental ruminations: "Sometimes we smoke and, uh, I shouldn't say it but, honestly, sometimes it helps me a lot. Because I'm more relaxed and I let myself go, it really helps me." "When I've smoked, I manage to let myself go a lot more, for example."

How do orgasmic women experience dyadic sexual activities at the attentional level?

The second objective of the current study is to gain further knowledge regarding the focus of attention during dyadic sexual activities, in women who usually reach orgasm. The analysis of the interviews highlight three attentional strategies that women apply: 1) attention oriented towards bodily sensations, 2) attention directed towards erotic fantasies, and 3) redirecting attention towards erotic and sexual stimuli (*table 3*).

Attention oriented towards bodily sensations

Throughout the interviews, it became clear that the most frequently used attentional strategy employed was focusing the attention towards one's bodily sensations. In fact, all orgasmic women (*N*=3) reported that they maintain their attention on various sensations, such as caresses, genital sensation or sexual desire, in order to facilitate orgasm attainment: "It's the key, if I come back to myself, to my body, to the present moment, I am completely there, I will enjoy a great moment with my partner, I could experience orgasm." "It's looking for pleasant sensations, the position that bring more sensations than another or at a given moment, we can change and then be somewhere somewhat connected with one's body, which means "hold on, I'd like this type of caresses." "I really focus on the sensations of penetration, and it comes a hundred times faster, actually, I didn't realize that by truly focusing on that penetration sensation, it would amplify to that extent. I think I was focusing far too much on the scene, on the activity like that. (...) really the frictions at the level of the body sensation, of the clitoris, or of the clicking between the thighs."

Table 3. **Attentional strategies most commonly employed by orgasmic women.**

Themes	Categories	Number of women
(1) Attention oriented towards bodily sensations	Caresses, genital sensations	3 women
	Their sexual desire and that of the partner	1 woman
(2) Attention directed towards erotic fantasies	Imagery or experienced erotic scenarios or images	2 women
(3) Redirecting attention towards erotic and sexual stimuli	Use of erotic fantasies	2 women
	Bodily sensations	2 women

The partner's sexual desire also appears to be a helping factor for one of the participants, to more closely focus on her bodily sensations: "When I feel in him a desire as strong as mine, it triggers a very strong feeling of arousal that makes me enter this state of disconnection from my mind, and I am fully in my body."

Attention directed towards erotic fantasies

The second attentional strategy mentioned by the participants is the use of erotic fantasies during dyadic sexual activities. It is important to note that these erotic fantasies refer to any thoughts with an erotic and/or sexual connotation. In the current study, a few women (*N*=2) focused their attention onto these, as follows (*table 3*): "I surely imagine a kind of fantasy where I see us making love (…). Sometimes, I also imagine someone watching but without the interest of voyeurism and, in the end, that's what makes me more and more aroused." "[Before reaching orgasm, she thinks about] exciting images. It might be fantasies, things that, in a sense, refuel the engine".

Redirecting attention towards erotic and sexual stimuli

The third strategy corresponds to the ability of refocusing one's attention towards erotic stimuli when feeling distracted. In fact, most women in the sample (*N*=2) voluntarily redirect their attention towards erotic fantasies or bodily sensations during dyadic sexual intercourse when this is the case (*table 3*): "If I don't concentrate, it won't come. (…) when I'm thinking about something else and I really try to refocus, to find fantasies, that's it, that excite me and then I try to get back into it with him." "Well, sometimes it happens to not really have desire so we look for it a bit but (…) often it comes quickly, images that appear and, that's it, they continue and other images that arise."

Discussion

The aim of the current exploratory study was to improve our understanding of how anorgasmic and orgasmic women differentially experience dyadic sexual activities at the attentional level. According to the results, anorgasmic women encounter several attentional biases, which inhibit them from being fully immersed in sexual intercourse. They show a greater tendency to focus their attention on their partner's non-erotic stimuli during sexual activities, such as gestures and words. This mechanism is also observed when the stimuli emerge from the woman herself (*e.g.*, pain and anticipations). Thus, it appears that anorgasmic women's attention is often oriented towards inappropriate or unpleasant aspects of sexual interactions.

Moreover, they also direct their attention towards their own mental ruminations. They often fail to put their "mind chatter" to rest. During sexual intercourse, their attention is focused on what they think they should – or want to – do, rather than on being fully immersed in their spontaneous bodily sensations. This can engender suffering, with half of the women in this study resorting to certain drugs to calm their thoughts.

Finally, the interviews also brought to light the fact that anorgasmic women may focus their attention on dysfunctional cognitions. As a result, they automatically activate cognitive patterns of inability to reach orgasm, themselves fueled by false beliefs regarding sexuality. Anorgasmic women appear to experience dyadic sexual activities with attentional abilities that are captured by non-erotic stimuli, from which it is complicated to disengage their attentional focus.

In contrast, orgasmic women experience dyadic sexual activities in an entirely different way. One can observe that the cognitive strategies they apply are directed at the erotic stimuli of these sexual encounters. All participants in the respective group had a greater tendency to focus their attention on bodily sensations such as their partner's caresses or their own genital sensations. They explain a state of complete connection with their body's sensations. Others also report focusing on their sexual desire or that of their partner, as such to facilitate sexual arousal. Additionally, not only do they voluntarily focus their attention on erotic fantasies or images, they are also able to redirect their attention to erotic stimuli (*e.g.*, fantasies, bodily sensations) when the latter has been distracted by non-related information. Thus, it seems that the activation of attentional abilities is crucial for the attainment of orgasm.

These qualitative findings replicate previous research (Cuntim & Nobre, 2011; Dove & Wiederman, 2000) that has uncovered how women with sexual dysfunction and, more particularly, anorgasmia,

present more cognitive distractions compared to women with no particular sexual difficulty. Our study further replicates Nobre and Pinto-Gouveia (2008b)'s observations regarding the higher number of cognitive patterns of incompetence and automatic negative thoughts found among anorgasmic women. Several authors (Basson, 2002; Janssen *et al.*, 2000) stipulate that these types of thoughts, as well as the resulting emotions, will monopolize women's cognitive resources, diverting them from the present moment and impeding on their interoceptive awareness (i.e., their ability to perceive their own bodily sensations).

This concept of distraction is also explained by Barlow's (1986) interference model. The latter states that a sexually functional individual will direct their attention towards erotic stimuli, thereby increasing sexual arousal, while a more sexually dysfunctional person is more likely to orient their attention towards non-erotic stimuli (*e.g.*, negative thoughts about oneself, others, or the world), which will hamper arousal as a consequence. The literature indicates that sexually functional women voluntarily direct their attention towards erotic stimuli, and that they must stay concentrate in an attempt to reach orgasm (Sholty *et al.* 1984). Similarly, they apply attentional strategies to increase and decrease their own sexual arousal (Beck & Baldwin, 1994). As explained by Sieroff (1998), attention inhibits non-relevant distractors that stem from the environment or from within the individual. However, it appears that anorgasmic women fail to do so.

A recent review of the literature by Milani and colleagues (2021) found that women with sexual dysfunction have greater difficulty in attentional processing of sexual stimuli. While increased attention to sexual stimuli may facilitate sexual arousal in all women, those with sexual dysfunction appear to have more difficulty processing salient aspects of such stimuli (*e.g.*, genital areas), resulting in less arousal. In this respect, Velten and colleagues (2021) report that women with sexual dysfunctions tend to pay less attention to genital areas when watching videos of heterosexual couples having vaginal sex.

Our qualitative study complements the results of previous studies and provides a better understanding of attentional mechanisms and, more specifically, of orgasmic and anorgasmic women. In fact, we hypothesize that the difficulties encountered in the attentional processing of sexual stimuli can be explained by attentional biases that prevent women from accessing their full attentional resources. Consequently, designing treatments that account for this difficulty could be a prime avenue for future research and practice. With this in mind, Moura and colleagues (2020) propose clinical approaches that encourage women to shift their attention from negative thoughts to erotic stimuli.

Study limitations

However, our study has several limitations. First, the sample size is relatively small. Recruitment was difficult, as some people felt uncomfortable talking about the intimate subject of sexuality and, more specifically, orgasm. Additional interviews would increase the generalizability and validity of the current results. Second, as this study is rooted in a qualitative approach, the observation of attention-related mechanisms remains subjective and limited to the people interviewed. It would be interesting to conduct future studies on larger samples using quantitative approaches and objective measures of attention to increase the generalizability and validity of the current results. Nonetheless, the current study represents a first step towards a better understanding of how attentional biases may not only be present but may also have a direct impact on women's achievement of orgasm.

Clinical implications

This study suggests some specific clinical avenues. As attentional biases may represent a factor responsible for and common to the maintenance of sexual disorders, it seems essential that therapists integrate not only the assessment of these biases, but also the implementation of direct interventions on them. We therefore recommend that attentional resources and biases be assessed at the time of diagnosis of female orgasmic disorders, something that is still not done enough in consultations, in order to propose appropriate sex therapeutic interventions. For example, a mindfulness-based sexotherapeutic intervention could be prescribed, as it would address the attentional biases responsible for the maintenance of orgasmic disorders. This technique is widely used in the treatment of

psychopathological disorders and, more recently, for female sexual dysfunctions (Adam *et al.* 2015; Brotto & Heiman, 2007; Brotto *et al.* 2008, 2012). Numerous studies have demonstrated that mindfulness significantly improves attentional capacity (Jha *et al.* 2007; Valentine & Sweet, 1999; Chambers & Allen, 2008) and reduces negative thoughts (Heeren & Philippot, 2010). Mindfulness comprises two main modules: attention orientation towards the experience and the self-regulation of attention (Bishop *et al.* 2004).

Conclusion

Anorgasmic women present attentional biases that may be responsible for the onset and maintenance of orgasmic dysfunction. Orgasmic women, on the other hand, report connecting to the present moment (to themselves, to their partner). To conclude, we advocate for the evaluation of attentional resources and biases during the diagnosis of female orgasmic disorders to better prescribe appropriate sexotherapeutic techniques.

Conflicts of interest

None of the authors has any conflict of interest to disclose.

References

Adam F, Géonet M, Day J, De Sutter P. Mindfulness skills are associated with female orgasm? *Sex Relationship Ther* 2015; 30: 256-67.

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. Washington, DC, 2000.

Barlow DH. Causes of sexual dysfunction : The role of anxiety and cognitive interference. *J Consulting Clin Psychol* 1986; 54: 140.

Basson R. A model of women's sexual arousal. *J Sex Marital Ther* 2002; 28: 1-10.

Beck AT. *Depression. Clinical, Experimental and Theoretical Aspects*. New York (Hoeber) 1967.

Beck JG, Baldwin LE. Instructional control of female sexual responding. *Arch Sex Behav* 1994; 23: 665-84.

Beck JG, Barlow DH, Sakheim DK, Abrahamson D. Shock threat and sexual arousal : The role of selective attention, thought content, and affective states. *Psychophysiology* 1987; 24: 165-72.

Birnbaum GE. The meaning of heterosexual intercourse among women with female orgasmic disorder. *Arch Sex Behav* 2003; 32: 61-71.

Bishop SR, Lau M, Shapiro S, *et al.* Mindfulness: A proposed operational definition. *Clinical psychology: Science Practice* 2004; 11: 230.

Brotto LA, Chivers ML, Millman RD, Albert A. Mindfulness-based sex therapy improves genital-subjective arousal concordance in women with sexual desire/arousal difficulties. *Arch Sex Behav* 2016; 45: 1907-21.

Brotto LA, Erskine Y, Carey M, *et al.* A brief mindfulness-based cognitive behavioral intervention improves sexual functioning versus wait-list control in women treated for gynecologic cancer. *Gynecol Oncol* 2012; 125: 320-5.

Brotto LA, Heiman JR. Mindfulness in sex therapy: Applications for women with sexual difficulties following gynecologic cancer. *Sex Relationship Ther* 2007; 22: 3-11.

Brotto LA, Heiman JR, Goff B, *et al.* A psychoeducational intervention for sexual dysfunction in women with gynecologic cancer. *Arch Sex Behavi* 2008; 37: 317-29.

Chambers R, Lo BCY, Allen NB. The impact of intensive mindfulness training on attentional control, cognitive style, and affect. *Cogn Ther Res* 2008; 32: 303-22.

Cuntim M, Nobre P. The role of cognitive distraction on female orgasm. *Sexol* 2011; 20: 212-4.

De Sutter P, Day J, Adam F. Who are the orgasmic women? Exploratory study among a community sample of French-speaking women. *Sexol* 2014; 23: e51-e57.

DeRogatis L, Clayton A, Lewis-D'Agostino D, Wunderlich G, Fu Y. Validation of the Female Sexual Distress Scale-Revised for Assessing Distress in Women with Hypoactive Sexual Desire Disorder. *J Sex Med* 2008; 5: 357-364.

Dewitte M. Gender Differences in Implicit Processing of Sexual Stimuli. *Eur J Personality* 2016; 30: 107-24

Dove NL, Wiederman MW. Cognitive distraction and women's sexual functioning. *J Sex Marital Ther* 2000; 26: 67-78.

Glaser BG, Strauss AL. *Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine Publishing Company, 1967

Gopher D, Iani C. Attention. In: Nadel L (ed.). *Encyclopedia of Cognitive Science*. New York: Nature Publication Group, 2003, pp. 220-226.

Graham CA. The DSM diagnostic criteria for female orgasmic disorder. *Arch Sex Behav* 2010; 39: 256-70.

IsHak WW, Bokarius A, Jeffrey JK, Davis MC, Bakhta Y. Disorders of orgasm in women : A literature review of etiology and current treatments. *J Sex Med* 2010; 7: 3254-68.

Janssen E, Everaerd W, Spiering M, Janssen J. Automatic processes and the appraisal of sexual stimuli : Toward an information processing model of sexual arousal. *J Sex Res* 2000; 37: 8-23.

Jha AP, Krompinger J, Baime MJ. Mindfulness training modifies subsystems of attention. *Cogn Affec Behav Neurosci* 2007; 7: 109-19.

Kaplan HS. *Disorders of Sexual Desire and other New Concepts and Techniques in Sex Therapy*. New York : Brunner, Hazel Publications, 1979.

Laumann E, Gagnon J, Michael R, Michaels S. *The Social Organization of Sexuality: Sexual Practices in the United States*. Chicago : University of Chicago, 1994.

Lopès P, Poudat FX. *Manuel de sexologie*. Elsevier Health Sciences, 2022.

Mah K, Binik YM. The nature of human orgasm : A critical review of major trends. *Clin Psychol Rev* 2001; 21: 823-56.

Masters WH, Johnson VE. *Les mésententes sexuelles et leur traitement*. Paris: Marabout, 1970.

Meston CM, Levin RJ, Sipski ML, Hull EM, Heiman JR. Women's orgasm. *Ann Rev Sex Res* 2004; 15: 173-257.

Milani S, Dawson SJ, Velten J. Visual Attention and Sexual Function in Women. *Curr Sex Health Rep* 2021: 13: 89-96.

Moura CV, Tavares IM, Nobre PJ. Cognitive-Affective Factors and Female Orgasm: A Comparative Study on Women with and Without Orgasm Difficulties. *J Sex Med* 2020; 17: 2220-8.

Nobre PJ, Pinto-Gouveia J. Cognitive and emotional predictors of female sexual dysfunctions : Preliminary findings. *J Sex Marital Ther* 2008a; 34: 325-42.

Nobre PJ, Pinto-Gouveia J. Differences in automatic thoughts presented during sexual activity between sexually functional and dysfunctional men and women. *Cogn Ther Res* 2008b; 32: 37-49.

Porto R. Genèse de la perte du sens dans la médecine et la sexologie contemporaines. *Sexol* 2009; 18: 22-7.

Posner MI. Attention: The mechanisms of consciousness. *Proc Nat Acad Sciences* 1994; 91: 7398-403.

Rosen R, Brown J, Heiman S, *et al.* The Female Sexual Function Index (FSFI) : A multidimensional self-report instrument for the assessment of female sexual function. *J Sex Marital Ther* 2000; 26: 191-208.

Rosen RC, Beck JG. *Patterns of sexual arousal: Psychophysiological Processes and Clinical Applications.* Guilford Press, 1988.

Sholty MJ, Ephross PH, Plaut SM, Fischman SH, Charnas JF, Cody CA. Female orgasmic experience : A subjective study. *Arch Sex Behav* 1984; 13: 155-64.

Sieroff E. Théories et paradigmes expérimentaux de l'attention. *Rev Neuropsychol* 1998; 8: 3-23.

Spiering M, Everaerd W. *The sexual unconscious.* Kinsey Institute Conference, 1st, Jul, 2003, Bloomington, IN, US.

Tavares IM, Laan ET, Nobre PJ. Cognitive-affective dimensions of female orgasm: The role of automatic thoughts and affect during sexual activity. *J Sex Med* 2017; 14: 818-28.

Valentine ER, Sweet PL. Meditation and attention : A comparison of the effects of concentrative and mindfulness meditation on sustained attention. *Mental Health Religion Culture* 1999; 2: 59-70.

Velten J, Milani S, Margraf J, Brotto LA. Visual attention and sexual arousal in women with and without sexual dysfunction. *Behav Res Ther* 2021a; 144: 103915.

Velten J, Milani S, Margraf J, Brotto LA. Visual Attention to Sexual Stimuli in Women with Clinical, Subclinical, and Normal Sexual Functioning : An Eye-Tracking Study. *J Sex Med* 2021b; 18: 144-155.

Wiegel M, Meston C, Rosen R. The female sexual function index (FSFI) : Cross-validation and development of clinical cutoff scores. *J Sex Marital Ther* 2005; 31: 1-20.

Appendix 1

Interviewing guide for anorgasmic women. "How do you experience sexual activities with your partner at the attentional level?"

1. Opening question	Hello, did you easily find the faculty?
2. Introductory questions	"Research shows that anorgasmic women are not connected to erotic stimuli when they are with their partner. In addition, anorgasmic women seem to present less daily mindfulness skills, a lack that is further accentuated during sexual activities with their partner. We need your help to understand this process in greater detail."
3. Transitioning questions	Do you currently have any difficulties in reaching orgasm? How do you experience sexual activities with your partner on an attentional level? How do you feel during them? Emotions, feelings? What are the thoughts that go through your mind during these sexual activities, and how do you manage them?
4. Key questions	Are you fully immerged in the sexual activity? Are you fully focused/centered on the sexual activity? What effect does this have on your pleasure and orgasm?
5. Concluding questions	We have discussed many things today, what prevents you most from reaching orgasm? Which elements should future treatment programs for orgasmic disorder include? Would you like to add any additional information?

Appendix 2

Interviewing guide for orgasmic women. "How do you experience sexual activities with your partner at the attentional level?"

1. Opening question	Hello, did you easily find the faculty?
2. Introductory questions	"Research shows that orgasmic women are more connected to erotic stimuli when they are with their partner. In addition, orgasmic women seem to present better daily mindfulness skills, a phenomenon that is further accentuated during sexual activities with their partner. We need your help to understand this process in greater detail."
3. Transitioning questions	Do you currently have any difficulties in reaching orgasm? How do you experience sexual activities with your partner on an attentional level? How do you feel during them? Emotions, feelings? What are the thoughts that go through your mind during these sexual activities, and how do you manage them?
4. Key questions	Are you fully immerged in the sexual activity? Are you fully focused/centered on the sexual activity? What effect does this have on your pleasure and orgasm?
5. Concluding questions	We have discussed many things today, what prevents you most from reaching orgasm? Which elements should future treatment programs for orgasmic disorder include? Would you like to add any additional information?