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ORIGINAL RESEARCH—ERECTILE DYSFUNCTION

Viewing Sexual Stimuli Associated with Greater Sexual Responsiveness, Not Erectile Dysfunction

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ABSTRACT

Introduction. Time spent viewing visual sexual stimuli (VSS) has the potential to habituate the sexual response and generalize to the partner context.
Aim. The aim of this study was to examine whether the time spent viewing VSS is related to sexual responsiveness felt in the laboratory or with a sexual partner.
Methods. Nontreatment-seeking men (N = 280) reported their weekly average VSS viewing in hours. VSS hours were examined in relation to the sexual arousal experienced while viewing a standardized sexual film in the laboratory and erectile problems experienced with a sexual partner.
Main Outcome Measures. Self-reported sexual arousal in response to sexual films and erectile problems on the International Index of Erectile Function were the main outcome measures.
Results. More hours viewing VSS was related to stronger experienced sexual responses to VSS in the laboratory, was unrelated to erectile functioning with a partner, and was related to stronger desire for sex with a partner.
Conclusions. VSS use within the range of hours tested is unlikely to negatively impact sexual functioning, given that responses actually were stronger in those who viewed more VSS. **Prause N and Pfaus J. Viewing sexual stimuli associated with greater sexual responsiveness, not erectile dysfunction. Sex Med 2015;3:90–98.**

Key Words. Erectile Dysfunction; Sex Stimuli; Erotica; Sexual Arousal

Introduction

The introduction of VHS tapes allowed many people to access erotic films in the privacy of their own homes, which appears to have increased the viewing of sexual films [1]. Many speculate that the Internet has increased viewing of visual sexual stimuli (VSS) [2], although data have not yet supported this viewing change [3]. People do increase the breadth of their interests in visual erotica over time [4]. Although some activists (e.g., Dines [5]) and clinicians (e.g., Bronner and Ben-Zion [6]) have voiced concerns that watching VSS causes erectile dysfunction (ED), others report using VSS to overcome erectile problems [7,8]. Surprisingly, data have not yet tested the relationship between the amount of VSS viewing and erectile functioning.

Studies of very high frequency viewing have thus far not found a relationship between VSS consumption and erectile problems. In one study of 24 sexually "compulsive" individuals, just 4 reported erectile problems [9]. A small study of 19 "hypersexual" men reported that 11 had "dimin-

ished libido or erectile function specifically in physical relationships with women" (p. 4), leaving the specific erectile problems, and their magnitude, unclear [10]. The reported problems in this study of 19 men could have been elevated because erectile problems may have been used to meet the impairment criteria in recruitment. In a different study of 78 men who were described by therapists as having sexual addiction problems, 18 also were diagnosed with some type of sexual dysfunction [11].

In contrast, published case reports deny the presence of erectile problems in those reporting addiction problems to VSS [12]. Another study reported no relationship between sexual inhibition and impaired erectile function in a sample of self-identified sex addicts [13]. Moreover, another study of 161 men with a primary complaint of hypersexuality found no elevation in erectile problems [14]. Mudry and colleagues [15] noted a lack of empirical studies on hypersexuality, suggesting the required data to link hypersexuality and erectile problems may simply not exist yet.

Some "hypersexuals" report difficulty finding a new sex partner, so it may not be reasonable to expect this group as a whole to report erectile problems if they do not have a partner [16]. However, an overwhelming majority of those who self-report hypersexuality endorse problems with VSS use [17]. Accordingly, hypersexual patients may represent a special subset of VSS consumers. For example, many of those who label themselves as sex addicts also report a stronger religious background [18]. For these reasons, it would be useful to examine whether erectile functioning is dependent on the level of VSS consumed by those who are not receiving treatment for hypersexual problems.

VSS viewing may affect erectile functioning through at least two mechanisms. More VSS viewing may result in tolerance or desensitization. For example, those who started viewing VSS at earlier ages report more breadth (termed "deviant" in the study) in their current VSS viewing [4]. Thus, erectile problems may occur when real-life sexual stimulation does not match the broad content accessed through VSS. There is evidence that gross anatomical differences exist in the average brain of those who view more VSS [19], but it is unclear whether the differences precede or follow VSS consumption. Secondly, erections may become conditioned to aspects of VSS that do not transition easily to real-life partner situations. Sexual arousal may be conditioned to novel stimuli (for review, see Brom et al. [20]), including particular sexual images [21], specific sexual films [22], or even nonsexual images [23,24]. It is conceivable that experiencing the majority of sexual arousal within the context of VSS may result in a diminished erectile response during partnered sexual interactions. Similarly, young men who view VSS expect that partnered sex will occur with themes similar to what they view in VSS [25]. Accordingly, when high stimulation expectations are not met, partnered sexual stimulation is ineffective.

Confounding variables also may link VSS consumption to erectile problems, thereby creating an association between the two that is not actually causal. Perhaps the most likely of these confounding variables is anxiety. Anxiety has been clearly and repeatedly linked to erectile problems (e.g., Beck and Barlow [26]). VSS lacks many of the features of partnered sex that could induce anxiety during sex, such as concerns about the partner's sexually transmitted disease status, relationship expectations, and concerns about one's own attractiveness or penis size. In sum, there are direct and indirect reasons why VSS may be associated with erectile problems.

The generation of an erection in response to sexual stimulation requires a relatively complex integration of information. When responding to VSS with an erection, men must attend to the VSS, recognize it as possessing sexual content, be motivated by the particular content presented, and experience general autonomic activation in addition to the very specific activation of penile motor cortex [27]. Men with erectile problems show similar areas of activity in their brain when viewing VSS to men without erectile problems, and apomorphine further enhances response in the lateral superior frontal cortex associated with erections [28,29]. In studies that do suggest some brain response differences between these men, these appear to reflect primarily frontal areas of control coming online [28,30]. This appears more consistent with problems due to a third variable, such as anxiety, rather than a downregulation of areas associated with sexual rewards.

Some neuro-structural differences have been suggested in men with erectile problems. Differences in white matter tracts in the splenium of the corpus callosum in patients with erectile problems have been noted, which the authors interpreted as likely problems in the communication of sensory information and conduction of visual signals [31].