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Review Article

Female sexual dysfunctionand digital era: To listen to voice of a female

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Abstract

Sexual function is a complex process involving interaction between neural system, vascular system, endocrinological and psychological system. Sexual dysfunction has it's separate position in the classificatory system like DSM 5, showing increasing importance. Although studies are less showing the incidence and prevalence of sexual dysfunction in females, it can be stated that in females it is 43% as compared to males (31%). Among the various types of sexual dysfunction most common type is low sexual interest (26%). Less than one-third of females seek medical attention for their sexual problems. Since the use of digital technology is increasing now, it impacts on sexual life is of great concern. Studies show that it has various negative impacts where as some studies also show some positive impacts. Adequate knowledge about sexual function and dysfunction is essential for managing this unreached area. The use of digital technology can be of much help in not only providing education to the patient but also help in managing some aspects of female sexual dysfunction.

Keywords: Female, Sexual dysfunction, Digital era.

Introduction

Human sexual function is not only essential for reproduction but also important to have a good quality of life. A complex and coordinated neurovascular process along with the adequate functioning of the vascular and endocrine system is essential for sexuality. However, psychological factors, a person's upbringing, interpersonal relations, family, and religious beliefs, also have a strong impact on sexual life (Althof, S. E., & Needle, R. B. (2013). Among other risk factors, age, education, experience (sexual), and poor health status also cannot be neglected.

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Sexual dysfunction can result from a breach in any of the above factors. Female sexual dysfunction (FSD) is a progressive and extremely prevalent condition, commonly presented as symptoms like reduced vaginal lubrication, dyspareunia, low arousal, and difficulty in achieving orgasm. World Health Organization (WHO) defines female sexual dysfunction as 'the various ways in which a woman is unable to participate in a sexual relationship as she would wish'(NIH Consensus Development Panel on Impotence. 1993). A descriptive definition of FSD includes the persistent/recurring decrease in sexual desire or arousal, the difficulty/inability to achieve an orgasm, and/or the feeling of pain during sexual intercourse diminished vaginal lubrication, decreased sense of arousal and difficulty in achieving orgasm (Salonia et al., 2004)

In 1998 in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) the diagnosis of female sexual dysfunction was introduced for the first time. However, DMS-IV categorizes sexual dysfunctions according to the disruption in the phases of the sexual response cycle such as Hypoactive Sexual Desire Disorder, Sexual Aversion Disorder, Sexual Arousal Disorder, Orgasmic Disorder and Sexual Pain Disorders like vaginismus, dyspareunia. (American Psychiatric Association. 2000). Whereas DSM (American Psychiatry Association, 2013)has given more importance to Sexual Dysfunctions and Gender Dysphoria has been separated which was included in DSM IV-TR as Sexual and Gender Identity Disorders. DSM 5 recognized three types of female sexual dysfunction, Female Sexual Interest/Arousal Disorder, Female Orgasmic Disorder, and Genito-pelvic pain/Penetration Disorder with the deletion of Sexual Aversion Disorder (American Psychiatry Association, 2013). International Classification of Diseases ICD 10 classifies sexual dysfunction the same as DSM IV-TR recognizing all the five types(World Health Organization, 1992). As compared to male sexual dysfunction, which is extensively studied, female sexual dysfunction (FSD) is significantly less understood and is more complex (Allahdadi et al., 2009).

Epidemiology of female sexual dysfunction

After a thorough literature search in Pub Med, Google Scholar, and Scopus, we could find limited literature on the incidence and prevalence of most aspects of female sexual dysfunction. However, a study by Frank et al in 1978, which was done around 40 years ago found that 76% of females at that time experienced some indications of sexual dysfunction whereas 40% of males complain of erectile dysfunction (Smith et al., 2012). The consensus statement by the 4th international consultation on sexual medicine in 2016 on their review found that the incidence of sexual dysfunction in females 36% (Wetlesen, 1996) to 40% (Fugl-Meyer, 2002; Martin et al., 2014), whereas in males the incidence is around 31% (Laumann et al., 1999). The most common types of sexual dysfunction in females being low sexual interest (26%), followed by delayed orgasm (11%), vaginal dryness (9%), and dyspareunia being 5%. Whereas, in a study by Laumann et al 1999 and the data from the US National Health and Social life survey it was found that43% of females suffer from sexual dysfunction compared to males, where the percentage is around 31% (Laumann, 1999). Despite the differences in various studies, such as the difference in the use of the method, unavailability of proper definition it can be reasonably stated that the prevalence of females reporting at least one symptom of sexual dysfunction is approximately 40% to 50%, irrespective of age. Females sexual dysfunction has an overlap of presentation among various types

of dysfunctions as compared to male sexual dysfunction, where the dysfunctions are usually in one or two discrete areas (Mc Cabe, et al. 2016). Looking into these figures it can be concluded that sexual dysfunction in females is more prevalent than that of males. Sexual dysfunction can lead to impaired quality of life. In a study by Balon et al, the burden of sexual dysfunction is poorly identified and underappreciated. Male sexual dysfunctions, like ED and PME, cause significant financial burden and loss of daily work and also lead to a definite psychological burden. However only one study by Goldmeier et al, 2004, which was assessing the burden of female sexual dysfunction, addressed the only financial burden of female sexual dysfunction with a lack of data regarding, quality of life and psychological burden (Balon, 2017).

Causes of female sexual dysfunction

In a recent systematic review by Travera et al in 2020, including 67 studies, it was observed that there is a significant association of cognitive processing factors and various sexual dysfunctions in both males and females. The main cognitive factors identified are a cognitive distraction and attentional focus, automatic thoughts and sexual cognitions, causal attributions to negative sexual events, efficacy expectations, and perceived performance demands (Tavares, et al. 2020). Sexual self-concept affecting a person's attitude towards sex is affected by biological also psychological and social factors. The personality of a female, body image, sexual abuse in childhood, the small size of secondary sexual characters, and thereby inhibition from exposure, are among the other psychological factors. Among the social factors is the role of parents and brought up, peer group and media are much significant (Potki et al., 2017). Endometriosis can lead to sexual dysfunction in females with risk factors like higher rates of anxiety, depression, poor quality of sleep, pelvic pain, and dyspareunia. The authors suggested the role of psychotherapy along with medical management in patients with endometriosis (Youseflu et al., 2020). Pregnancy, childbirth, perineal lacerations, postpartum depression, breast feeding can have an impact on female sexual dysfunction post-partum (Leeman & Rogers, 2012). Patients' age, creatinine level, low-density lipoprotein, and diastolic blood pressure can also influence sexual dysfunction. Chronic renal failure can also be the negative predictor of the Female Sexual Function Index (Nikoobakht et al., 2020).

Ongoing epidemiological studies in women suggest that age, hypertension, cigarette smoking, hypercholesterolemia, as well as pelvic surgeries, breast cancer, HIV Chronic hepatitis C, urinary incontinence, Neuro Bechet's disease (NBD) hurt sexuality in all but especially on arousal and vaginal lubrication are also associated with female sexual dysfunction (Kedde, 2013; Bell, 2006; Elshimi, 2014; Duralde, 2017; Hayriye Sorgun, 2020). Female sexual dysfunction is showed in 77.8% of women of Parkinson's disease treated with Deep Brain Stimulation of Sub Thalamic Nucleus (Pedro et al., 2020). Female sexual dysfunction affects 21-41% of women with beta-thalassemia minor worldwide (Keşkek et al., 2020). Endocrine disorders involving pituitary, thyroid, adrenal gland, gonads, metabolic disorders have a significant effect on female sexual dysfunction(Carosa et al., 2020). Sexual dysfunction occurs in 40%-60% of patients with major depressive disorder (MDD) due to either the condition itself and/or the antidepressant (Freeman et al., 2020). The level of sexual dysfunction in schizophrenia patients was found to be high and is correlated with different factors such as single, divorced, widowed, relapse, and poor quality of life. Almost all anti-epileptic drugs is associated with sexual dysfunction if females (Petersen et al., 2020).

Perceptions and cognitions about the female sexual dysfunction

As compared to men less than one-third of women seek medical attention for distressing sexual dysfunction (Shifren et al., 2009). The majority, among the one third, reach the primary care physicians or gynecologists. Another issue is the physician's hesitancy in asking patients about their sexual life. Probably, lots of factors play a role in this two-sided hesitation. The factors like transference, insufficient knowledge, fear of crossing the limits inhibit the patient from seeking help. Psychiatrists are being reluctant because of counter transference, improper training, fear of being accused of boundary violations, etc (Solursh et al., 2003). In one study, 73% of women did not ask about their issues because of embarrassment whereas, 15% thought of the reduction in sexual functioning to be normal and hence never asked (Humphery & Nazareth, 2001). Therefore, some common misperceptions prevailing among the physicians are, women usually do not want to been quired about their sexual problems, or else it's very difficult to treat sexual problems (Buster, 2013).

Moving to the digital era

In a study by Anand et al., in 2017, it was noticed that approximately 3.77 billion people in the world have access to the internet with their computers /smart phones. Data from international telecommunication union found that about 94% of young age people around 15–24 years has been found to use the internet in developed countries whereas around 67% use in developing countries Among those who use internet, social media users are around 71% which suggests that around 3 billion people will be using social media by the end of 2021.

Impact of digital technology on sexual life

Being involved in internet-based activities consumes lots of time and energy which in return affects various aspects of the life of an individual. The study by Alimoradi et al in 2019 involving 938 participants found that there occurs a reduction of intimacy and perceived social support among those who use social media. These in turn lead to the variation in the relationship of social media use and sexual function (31.1%) and sexual distress (45.6%). The role of social media use in causing sexual dysfunction can be direct or may be indirect. Musses et al., 2015 in their study showed that sexual compatibility and sexual satisfaction are negatively influenced by the online use of sexual activity with sexual content. The romance and satisfaction between partners in a relationship are negatively interfered with by the use of digital technology (Mc Daniel & Coy, 2014).

There occurs a bidirectional relationship between anxiety and sexual performance. The above study by Alimoradi et al 2019 found that depression and anxiety were significantly associated with female sexual dysfunction. Performance anxiety also might end up on internet use. The use of online sexual activities and other sexual content only affects the quality of sexual relationships if individuals (Zheng & Zheng, 2014). As sensation seeking is an important predictor of online sexual activities, there occurs a shift to virtual sexual activity (online) from the actual one. The tendency of getting new and exciting sexual experiences is also an important maintaining factor for these online activities. Increased use of online pornography reduces moral values and in turn causing violence against women and negatively impact sexual health (Lim et al., 2016). Anxiety increases even also watching nonviolent pornography particularly in adolescents who have lesser exposure and the online activities are accepted as real not virtual. Which in turn negatively affects the sexual behavior of a person, leading to unrealistic expectations and hence sexual dysfunction particularly in

adolescents. Among other alarms are the non-use of condoms in pornography, influences the body image, and the possibility of addiction (Rostad et al., 2019). Violent pornography use is significantly associated with attitudes supporting violence against women, is revealed by a meta-analysis of non experimental studies (Hald et al., 2010).

Positive impact of digital technology on sexual life

Sexual desire, attitude, and behavior were positively and significantly correlated with using online sexual materials. Sexual life can be happier and more acceptable by either or both partners by changing their attitude towards sex and reducing the uneasiness with the use of the internet (Weinberg, et al., 2010). Using pornography has increased openness in discussing sexual life. Some of Australian and Danish (McKee, 2007; Hald & Malamuth, 2008) studies found that there have been significantly more positive effects attributed to the use of pornography rather than negative effects. The areas showing improvement are overall sex life, being more comfortable than before the use of pornography and open-minded discussion about sex, and also being more attentive to each other's sexual pleasure. Likewise, in another study from the US with 245 students, it was shown that exploring new sexual behaviors and being a source of empowerment for the viewer, building confidence in the females was associated with viewing pornography.

Management of female sexual dysfunction

Because of the complexities of understanding of female sexual dysfunction and scarcity of literature, the innovative treatment options are also in the stage of development. Topical Alprostadil, a synthetic prostaglandin E1(PGE1) which acts on the cAMP levels and leads to smooth muscle relaxation and vasodilatation. Its role for penile erection is established but in clitoral stimulation, studies are underway. Likewise, the role of Bremelanoptide, a synthetic analog of MSH(Melanonocortin Stimulating Hormone) receptor MC3, MC4, intranasal testosterone, intravaginal dehydroepiandrosterone, PDE5 inhibitors, Apomorphine, Bupropion and Trazodone are not promising in case of female sexual dysfunction (Belkin et al. , 2015).

Psychotherapeutic techniques can be of much help considering the unavailability of pharmacological agents and the role of psychological and social factors in female sexual dysfunction. Many females get benefited by mere psychoeducation. The age-old PLISSIT method is of use till now for the treatment of sexual issues (Annon, 1976). Among other interventions, those are significantly beneficial are basic counseling, psychotherapeutic options for individual women focussing on body, pelvic floor, cognitive behavior therapy, couple therapy, couple communication training, psychodynamic couple therapy, and couple sex therapy, etc (Bitzer & Brandenburg, 2009).

Use of the internet in the management

Promising the role of psychotherapy in the management of female sexual dysfunction can be of benefit when a patient visits the doctor and the doctor has adequate knowledge about specific therapies. Considering the scarcity of resource persons, the use of digital technology can be sought at various levels. Internet use can be of use in the management of female sexual dysfunction like anxiety and depression.

The advantage of digital technology over the direct face to face contact is: 1. When an individual is worried about being judged, internet maintains the anonymity; 2. Results in an increase in the self-esteem of the individual as the patient becomes more active

and responsible and attributes the improvement to herself; 3. The coexistence of the doctor and the patient at a time and space is not required (Andersson & Titov, 2014). Internet interventions showed improvement in sexual function, increased sexually active individuals, and increased use of sexual aids, but with clinician guidance (Schover et al., 2020). Although internet-based psychotherapies can be assumed to be of great help studies are lacking supporting the role. Few studies in male ED and PME prove that internet-based sexual therapy are of significant help (Van Lankveld et al., 2009). It has been earlier stated that female's sexual satisfaction improves after watching porn, which can be used in psychoeducation. Various literature is in support of the use of internet-based psychoeducation in the early phase of psychoeducation for male and female sexuality, also at a later stage of treatment (e.g., in the case of female hypoactive sexual desire), or in couple therapy (Jannini, 2012; Hummel et al., 2018).

Since internet-based therapy is useful in reducing anxiety, sexual dysfunction coupled with anxiety can be benefitted from this therapy. Research by Hummel et al found that cognitive behavior therapy (CBT) focused on the internet dramatically increases sexual appetite, sexual anticipation, vaginal lubrication, sexual pain, sexual anxiety, and body image in 84 survivors of breast cancer. The positive effects of the intervention on the overall sexual functioning were not only immediate but held for a 3- and 9-months follow-up (Mc Cabe, 2001). Effectiveness of short-term CBT for female sexual dysfunction has been showing in a study by Mc Cade with 44.4% females showing complete improvement after the CBT program Van Lankveld et al., (2016) while conducting a study in 199 couples with sexual dysfunction also demonstrated the effectiveness of CBT. Brotto et al., (2008) found that three-session mindfulness-based psychoeducational intervention in females with sexual desire problems and sexual arousal problems led to significant improvement in the Female Sexual Function Index (FSFI). In a study by Lisa M Jones et al including 39 female patients, the use of internet-based psychological therapy, they have structured a therapy named 'Revive' which included three well-validated treatments like communication skills training, sensate focus, and regular email contact with a therapist. It was observed that females with sexual dysfunction, those who completed 'Revive' showed significant improvement in communication, sexual intimacy, and emotional intimacy as compared to those who did not receive treatment (Jones & Mc Cabe, 2011).

Conclusion

Female sexual problems are least studied and the most neglected aspect as compared to male sexual dysfunction. The knowledge about female sexual dysfunction has come a long way and leads to a detailed and extensive understanding of female sexuality and female sexual disorders. There is still room for understanding the various socio-cultural aspects of women's sexual health issues as well as creating awareness among men and women regarding the same. Digital technology has some positive and negative impacts on sexual life. However, the positive aspect of digital technology can be used for psychoeducation and which in turn can reduce some burden of sexual dysfunction. We are still ignorant about the digital culture affecting female sexual dysfunction and there is so much to explore in this front. We can only hope that our quest for understanding the mystery of female sexuality continues for the benefit and advancement of humankind.

References

Allahdadi, K. J., Tostes, R. C., & Webb, R. C. (2009). Female sexual dysfunction: therapeutic options and experimental challenges.

Cardiovascular & hematological agents in medicinal chemistry, 7(4), 260–269.

Frank E, Anderson C, Rubinstein D. Frequency of sexual dysfunction in "normal" couples. N Engl J Med. 1978;299:111.

Alan McKee. (2007). The Relationship Between Attitudes Towards Women, Consumption of Pornography, and Other Demographic Variables in a Survey of 1,023 Consumers of Pornography, International Journal of Sexual Health, 19:1, 31-45.

Alimoradi, Z., Lin, C. Y., Imani, V., Griffiths, M. D., & Pakpour, A. H. (2019). Social media addiction and sexual dysfunction among Iranian women: The mediating role of intimacy and social support. Journal of behavioral addictions, 8(2), 318–325.

Althof, S. E., & Needle, R. B. (2013). Psychological and interpersonal dimensions of sexual function and dysfunction in women: An update. Arab journal of urology, 11(3), 299–304.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: Author

American Psychiatric Association. (2000). Diagnostic and statistical manual of mental disorders (4th ed., text rev.).

Anand, A., Brandwood, H. J., & Jameson Evans, M. (2017). Improving Patient Involvement in the Drug Development Process: Case Study of Potential Applications from an Online Peer Support Network. Clinical therapeutics, 39(11), 2181–2188.

Andersson, G., & Titov, N. (2014). Advantages and limitations of Internet-based interventions for common mental disorders. World psychiatry : official journal of the World Psychiatric Association (WPA), 13(1), 4–11.

Basson, R., Berman, J., Burnett, A., Derogatis, L., Ferguson, D., Fourcroy, J., Goldstein, I., Graziottin, A., Heiman, J., Laan, E., Leiblum, S., Padma-Nathan, H., Rosen, R., Segraves, K., Segraves, R. T., Shabsigh, R., Sipski, M., Wagner, G., & Whipple, B. (2000). Report of the international consensus development conference on female sexual dysfunction: definitions and classifications. The Journal of urology, 163(3), 888–893.

Balon R. (2017). Burden of Sexual Dysfunction. Journal of sex & marital therapy, 43(1), 49–55.

Bell, C., Richardson, D., Wall, M., & Goldmeier, D. (2006). HIV-associated female sexual dysfunction - clinical experience and literature review. International journal of STD & AIDS, 17(10), 706–709.

Belkin, Z. R., Krapf, J. M., & Goldstein, A. T. (2015). Drugs in early clinical development for the treatment of female sexual dysfunction. Expert opinion on investigational drugs, 24(2), 159–167.

Bitzer, J., & Brandenburg, U. (2009). Psychotherapeutic interventions for female sexual dysfunction. Maturitas, 63(2), 160–163.

Brotto, L. A., Basson, R., & Luria, M. (2008). A mindfulness-based group psychoeducational intervention targeting sexual arousal disorder in women. The journal of sexual medicine, 5(7), 1646–1659.

Buster J. E. (2013). Managing female sexual dysfunction. Fertility and sterility, 100(4), 905–915.

Carosa, E., Sansone, A., & Jannini, E. A. (2020). Management of endocrine disease: Female sexual dysfunction for the endocrinologist. European journal of endocrinology, 182(6), R101.

Daneback, K., Sevcikova, A., Månsson, S. A., & Ross, M. W. (2013). Outcomes of using the internet for sexual purposes: fulfillment of sexual desires. Sexual health, 10(1), 26–31.

Duralde, E. R., & Rowen, T. S. (2017). Urinary Incontinence and Associated Female Sexual Dysfunction. Sexual medicine reviews, 5(4), 470–485.

Elshimi, E., Morad, W., Mohamad, N. E., Shebl, N., & Waked, I. (2014). Female sexual dysfunction among Egyptian patients with chronic hepatitis C. The journal of sexual medicine, 11(3), 768–775.

Fanta, T., Haile, K., Abebaw, D., Assefa, D., & Hibdye, G. (2018). Assessment of sexual dysfunction and associated factors among patients with schizophrenia in Ethiopia, 2017. BMC psychiatry, 18(1), 158.

Freeman, M. P., Fava, M., Dirks, B., Jha, M. K., Shelton, R. C., Thase, M. E., Trivedi, M. H.,

Papakostas, G. I., Liu, K., Whitworth, T., & Stankovic, S. (2020). 180 Improvement of Sexual Function Observed During Treatment of Major Depressive Disorder with Adjunctive Pimavanserin. CNS spectrums, 25(2), 313–314.

Fugl-Meyer, K., & Fugl-Meyer, A. R. (2002). Sexual disabilities are not singularities. International journal of impotence research, 14(6), 487–493.

Goldmeier, D., Malik, F., Phillips, R., & Green, J. (2004). Cost implications of sexual dysfunction: the female picture. International journal of impotence research, 16(2), 130–134.

Hald, G. M., Malamuth, N. M., & Yuen, C. (2010). Pornography and attitudes supporting violence against women: revisiting the relationship in nonexperimental studies. Aggressive behavior, 36(1), 14–20.

Hald, G. M., & Malamuth, N. M. (2008). Self-perceived effects of pornography consumption. Archives of sexual behavior, 37(4), 614–625.

Hayriye Sorgun, M., Kuzu, M., Erdoğan, S., & Yucesan, C. (2020). Sexual dysfunction in Neuro-Behcet's disease. Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia, S0967-5868(20)30413-6. Advance online publication.

Humphery, S., & Nazareth, I. (2001). GPs' views on their management of sexual dysfunction. Family practice, 18(5), 516–518.

Hummel, S.B., Lankveld, J.V., Oldenburg, H.S., Hahn, D.E., Kieffer, J.M., Gerritsma, M.A., Kuenen, M.A., Bijker, N., Borgstein, P.J., Heuff, G., Cardozo, A.M., Plaisier, P.W., Rijna, H., Meij, S.V., Dulken, E.J., Vrouenraets, B.C., Broomans, E., & Aaronson, N.K. (2018). Internet-Based Cognitive Behavioral Therapy Realizes Long-Term

Improvement in the Sexual Functioning and Body Image of Breast Cancer Survivors. Journal of Sex & Marital Therapy, 44, 485 - 496.

International Telecommunication Union. (2017). ICT facts and figures 2017. Retrieved March 13, 2019, from. itu.int/en/ITUD/ Statistics/ Documents/facts/ICTFacts Figuresm 2017. pdfJacques J. D. M. van Lankveld, Walter Everaerd & Yvonne Grotjohann (2001)

Cognitive - behavioral bibliotherapy for sexual dysfunctions in heterosexual couples: A randomized waiting - list controlled clinical trial in the Netherlands, The Journal of Sex Research, 38:1, 51-67.

Jack S. Annon (1976) The PLISSIT Model: A Proposed Conceptual Scheme for the Behavioral Treatment of Sexual Problems, Journal of Sex Education and Therapy, 2:1, 1-15.

Jannini, E. A., Limoncin, E., Ciocca, G., Buehler, S., & Krychman, M. (2012). Ethical aspects of sexual medicine. Internet, vibrators, and other sex aids: toys or therapeutic instruments?. The journal of sexual medicine, 9(12), 2994–3001.

Jones, L. M., & McCabe, M. P. (2011). The effectiveness of an Internet-based psychological treatment program for female sexual dysfunction. The journal of sexual medicine, 8(10), 2781–2792.

Kedde, H., van de Wiel, H. B., Weijmar Schultz, W. C., & Wijsen, C. (2013). Sexual dysfunction in young women with breast cancer. Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer, 21(1), 271–280.

Keşkek, Ş. Ö., Demirtaş, D., Uysal, G., & Başaran, E. (2020). Sexual dysfunction in female subjects with beta-thalassemia minor. International journal of impotence research, 32(3), 358–362.

Laumann, E. O., Paik, A., & Rosen, R. C. (1999). Sexual dysfunction in the United States: prevalence and predictors. JAMA, 281(6), 537–544.

Leeman, L. M., & Rogers, R. G. (2012). Sex after childbirth: postpartum sexual function. Obstetrics and gynecology, 119(3), 647–655.

Lim, M. S., Carrotte, E. R., & Hellard, M. E. (2016). The impact of pornography on gender-based violence, sexual health and well-being: what do we know?. Journal of epidemiology and community health, 70(1), 3–5.

Malary, M., Khani, S., Pourasghar, M., Moosazadeh, M., & Hamzehgardeshi, Z. (2015). Biopsychosocial determinants of hypoactive sexual desire in women: A narrative review. Materia socio-medica, 27(6), 383–389.

Martin, S. A., Atlantis, E., Lange, K., Taylor, A. W., O'Loughlin, P., Wittert, G. A., & Florey

Adelaide Male Ageing Study (2014). Predictors of sexual dysfunction incidence and remission in men. The journal of sexual medicine, 11(5), 1136–1147.

Mc Cabe, M.P. (2001). Evaluation of a Cognitive Behavior Therapy Program for People with Sexual Dysfunction. Journal of Sex & Marital Therapy, 27, 259 - 271.

Mc Cabe, M. P., Sharlip, I. D., Lewis, R., Atalla, E., Balon, R., Fisher, A. D., Laumann, E., Lee, S. W., & Segraves, R. T. (2016). Incidence and Prevalence of Sexual Dysfunction in Women and Men: A Consensus Statement from the Fourth International Consultation on Sexual Medicine 2015. The journal of sexual medicine, 13(2), 144–152.

Mc Daniel, Brandon & Coyne, Sarah. (2014). "Technoference": The Interference of Technology in Couple Relationships and Implications for Women's Personal and Relational Well-Being. Psychology of Popular Media Culture. 5. 10.1037/ppm 0000065.

Mollaioli, Daniele & Sansone, Andrea & Romanelli, Francesco & Jannini, Emmanuele. (2018). Sexual Dysfunctions in the Internet Era. 10.1007/978-3-319-68306-5_15.

Muusses, L. D., Kerkhof, P., & Finkenauer, C. (2015). Internet pornography and relationship quality: A longitudinal study of within and between partner effects of adjustment, sexualsatisfaction and sexually explicit Internet material among newly-weds. Computers in Human Behavior, 45, 77–84.

NIH Consensus Conference. Impotence. NIH Consensus Development Panel on Impotence. (1993). JAMA, 270(1), 83–90.

Nikoobakht, M., Behtash, N., Ramezani-Binabaj, M., Jelveh-Moghaddam, E., Fakhr Yasseri, A., & Dialameh, H. (2020). Comparison of sexual function changes in recipients of kidney transplant in females receiving kidney from the living donor and deceased donor. Urologia, 391560320913402.

Pedro, T., Sousa, M., Rito, M., Pereira, R., Januário, C., & Moreira, F. (2020). The Impact of Deep Brain Stimulation on the Sexual Function of Patients With Parkinson's Disease. The neurologist, 25(3), 55–61.

Petersen, M., Kristensen, E., Giraldi, L., & Giraldi, A. (2020). Sexual dysfunction and mental health in patients with multiple sclerosis and epilepsy. BMC neurology, 20(1), 41.

Potki, R., Ziaei, T., Faramarzi, M., Moosazadeh, M., & Shahhosseini, Z. (2017). Bio-psycho-social factors affecting sexual self-concept: A systematic review. Electronic physician, 9(9), 5172–5178.

Rostad, W. L., Gittins-Stone, D., Huntington, C., Rizzo, C. J., Pearlman, D., & Orchowski, L. (2019). The Association Between Exposure to Violent Pornography and Teen Dating Violence in Grade 10 High School Students. Archives of sexual behavior, 48(7), 2137–2147.

Salonia, A., Munarriz, R. M., Naspro, R., Nappi, R. E., Briganti, A., Chionna, R., Federghini, F., Mirone, V., Rigatti, P., Goldstein, I., & Montorsi, F. (2004). Women's sexual dysfunction: a pathophysiological review. BJU international, 93(8), 1156–1164.

Schover, L. R., Strollo, S., Stein, K., Fallon, E., & Smith, T. (2020). Effectiveness trial of an online self-help intervention for sexual problems after cancer. Journal of sex & marital therapy, 1–13.

Shifren, J. L., Johannes, C. B., Monz, B. U., Russo, P. A., Bennett, L., & Rosen, R. (2009). Help-seeking behavior of women with self-reported distressing sexual problems. Journal of women's health (2002), 18(4), 461–468.

Smith, A. M., Lyons, A., Ferris, J. A., Richters, J., Pitts, M. K., Shelley, J. M., Simpson, J. M., Heywood, W., & Patrick, K. (2012). Incidence and persistence/recurrence of women's sexual difficulties: findings from the Australian Longitudinal Study of Health and Relationships. Journal of sex & marital therapy, 38(4), 378–393.

Solursh, D. S., Ernst, J. L., Lewis, R. W., Prisant, L. M., Mills, T. M., Solursh, L. P., Jarvis, R. G., & Salazar, W. H. (2003). The human sexuality education of physicians in North American medical schools. International journal of impotence research, 15 Suppl 5, S41–S45.

Statista. (2018). Number of social network users worldwide from 2010 to 2021 (in billions). Retrieved March 13, 2019, from https:// www.statista.com/statistics / 278414/number-of-worldwide- social-network-users/

Taormino T, Penley C, Parrenas Shimizu C, et al. The feminist porn book. The politics of producing pleasure. New York: Feminist Press at the City University of New York, 2013.

Tavares, I. M., Moura, C. V., & Nobre, P. J. (2020). The Role of Cognitive Processing Factors in Sexual Function and Dysfunction in Women and Men: A Systematic Review. Sexual medicine reviews, S2050-0521(20)30030-5.

Van Lankveld, J. J., Leusink, P., van Diest, S., Gijs, L., & Slob, A. K. (2009). Internet-based brief sex therapy for heterosexual men with sexual dysfunctions: a randomized controlled pilot trial. The journal of sexual medicine, 6(8), 2224–2236.

Van Lankveld J. (2016). Internet-Based Interventions for Women's Sexual Dysfunction. Current sexual health reports, 8, 136–143.

World Health Organization. (1992). The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines. Geneva:

Wetlesen, T. S. (1996). Book Reviews : Osmo Kontula & Elina Haavio-Mannila: Sexual Pleasures. Enhancement of Sex Life in Finland, 1971-1992. Aldershot: Dartmouth, 1995. Acta Sociologica, 39(3), 335–337.

Weinberg, M. S., Williams, C. J., Kleiner, S., & Irizarry, Y. (2010). Pornography, normalization, and empowerment. Archives of sexual behavior, 39(6), 1389–1401.

Youseflu, S., Jahanian Sadatmahalleh, S., Bahri Khomami, M., & Nasiri, M. (2020). Influential factors on sexual function in infertile women with endometriosis: a path analysis. BMC women's health, 20(1), 92.

Zheng, L., & Zheng, Y. (2014). Online sexual activity in mainland China: Relationship to sexual sensation seeking and sociosexuality. Computers in Human Behavior, 36, 323–329.