

Female Sexual Dysfunction = a new schematic educational and clinical tool with enhanced etiology and classification

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Dedicated to the memory of our son Roy Emanuel Hoch ל"ו

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Summary

Rising awareness for women's health has also drawn increased focus on female sexual health. Improved diagnostic sexual medicine instruments are increasingly becoming available for addressing Women's Sexual Function and Dysfunction. The present article presents a new schematic biopsychosocial wholistic "tool" that comes to narrow the existing educational and therapeutical instrumentation gap. This schematic is applied in a regular gynecological office environment with medical and physician assistant (PA) students, as well as gynecological residents, in managing patients' sexual health problems both face-to-face and by telemedicine. The proposed new "tool" that incorporates the classification, etiology, and treatment (including medications) of the various female sexual dysfunctions, also offers the following practical recommendations: (1) To add "**structural sexual discomfort**" due to pelvic organ prolapse (POP) and urinary or fecal incontinence, as a fifth, general form of women's sexual disorders; (2) To add "**positional dyspareunia**" as a third, specific, form of sexual pain dysfunction; (3) To integrate genitourinary syndrome of menopause (GSM) and sexual desire dysfunction into one comprehensive etiologically diagnostic and therapeutically indicative entity named "**sex steroids insufficiency syndrome of menopause (SISM)**." This terminological addition should not interfere with the GSM acronym that mostly concentrates on *the physical* urogenital changes of menopause, including dyspareunia. (Further "Schematic Tool" peer-testing is advisable for establishing utility). The pros and cons for the pointedly specific medicalization of sexuality and its influence on patient therapeutic categorization, are also examined.

Résumé

La prise de conscience croissante de la santé des femmes a également attiré l'attention sur la santé sexuelle féminine. Des instruments améliorés de médecine sexuelle sont de plus en plus disponibles pour traiter la fonction et les dysfonctions sexuelles des femmes. Le présent article présente un nouvel

"outil" schématique biopsychosocial holistique qui permet de réduire le fossé existant en matière d'instruments éducatifs et thérapeutiques appliqués dans un environnement gynécologique ou médical ordinaire avec des étudiants en médecine et des assistants médicaux (AM), ainsi que des résidents en gynécologie, pour gérer les problèmes de santé sexuelle des patients en face à face et par télémédecine. Le nouvel "outil" proposé, qui intègre la classification, l'étiologie et le traitement (y compris les médicaments) des diverses dysfonctions sexuelles féminines, offre également les recommandations pratiques suivantes : (1) Ajouter la **"gêne structurelle lors des rapports sexuels"** due à la présence d'un organe pelvien lors des rapports sexuels dû au prolapsus des organes pelviens (POP) et à l'incontinence urinaire ou fécale, comme un cinquième type de troubles sexuels féminins ; (2) Ajouter **"la dyspareunie positionnelle"** comme une troisième forme spécifique de dysfonctionnement de la douleur sexuelle ; (3) Intégrer le syndrome génito-urinaire de la ménopause (GSM) et le dysfonctionnement du désir sexuel dans une entité complète de diagnostic étiologique et d'indication thérapeutique, appelée **"syndrome d'insuffisance de stéroïdes sexuels de la ménopause"(SISM)**. Cet ajout terminologique ne devrait pas interférer avec l'acronyme GSM qui se concentre principalement sur les changements urogénitaux physiques de la ménopause, y compris la dyspareunie. (Il est conseillé de procéder à un test par les pairs de l'« outil schématique » pour en établir l'utilité). Les avantages et les inconvénients de la médicalisation de la sexualité et son influence sur la catégorisation éclectique et multidimensionnelle des patientes, sont également discutés.

Keywords

Female sexual dysfunctions; Medicalization; Sex steroids; Positional; Structural

Mots Clés

Dysfonctions sexuelles des femmes; Médicalisation; Stéroïdes sexuels ; Positionnelle; Structurelle

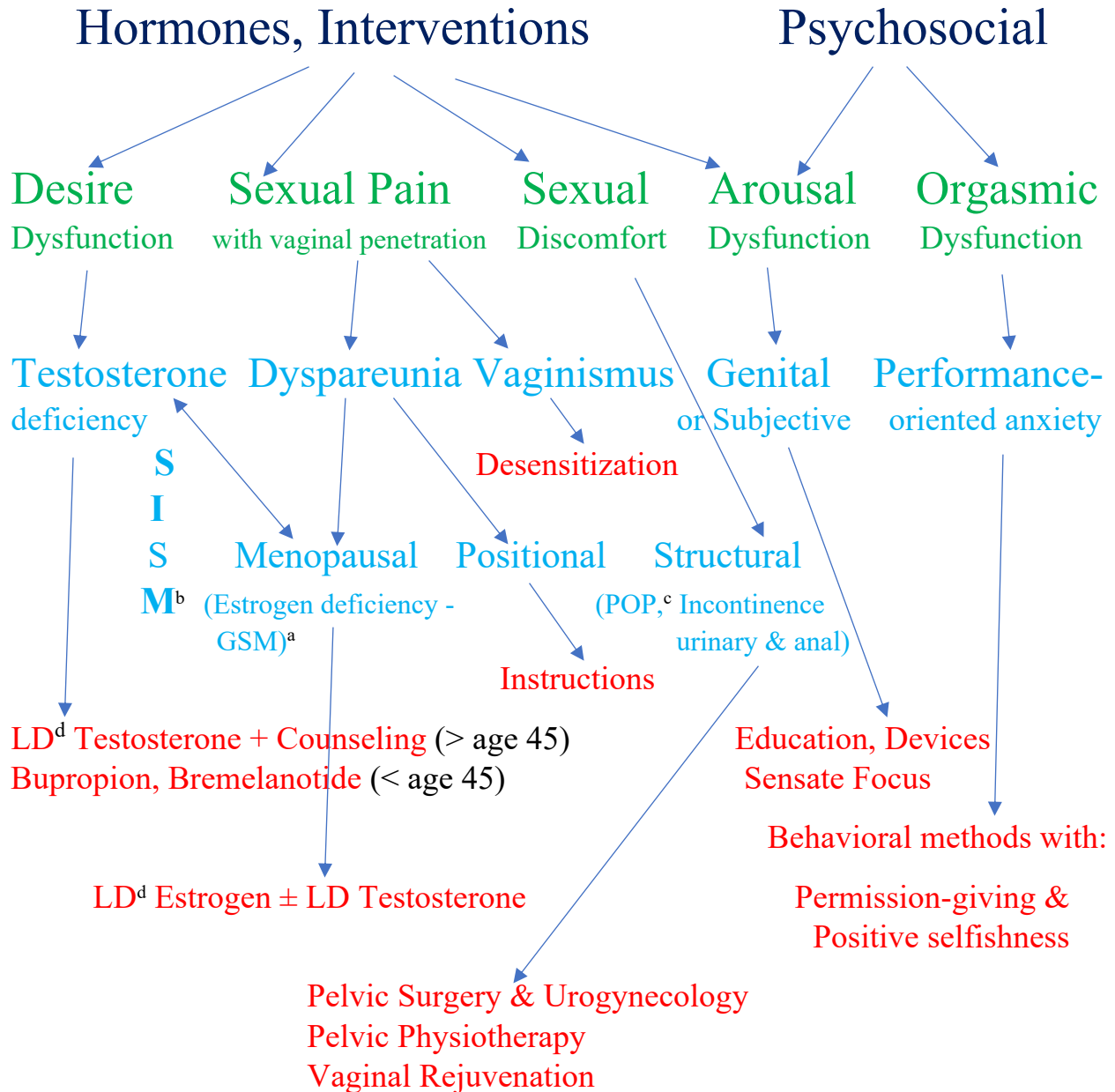
Background

Sexual dysfunction in women

Sexual dysfunction in women is defined as any sexual recurrent and persistent disorder related to **sexual desire, arousal, orgasm, sexual pain with vaginal penetration**, (American Psychiatric Association (APA), DSM-IV-2000-TR) and **structural sexual discomfort** (author's proposed addition), that results in significant personal distress or/and couple interpersonal difficulty, with potential impact on the quality of life. Sexual Desire Dysfunction, Sexual Pain with Vaginal Penetration, and Structural Sexual Discomfort comprise, in our experience, the large majority of women's sexual disorders, most of which appear only during their midlife years. A new schematic, concise, integrated biopsychosocial "tool" for the practical understanding and treatment of the above enumerated five female sexual disorders is herewith offered, arrow-pointing to the self-explanatory relations between etiologic, diagnostic and therapeutic actions and interactions ([Fig.1](#)). This "tool" based on author's clinical experience and patient request, when used in a regular gynecological/medical office environment, proves to be of great help by providing an easily understandable and straight-forward educational and therapeutical vehicle for both face-to-face and telemedicine platform. Treatment is usually focusing on the primary sexual dysfunction as presented by the patient, thus building on her motivation = key to therapeutic success ([Kingsberg et al, 2017](#)). After first concisely summarizing = for the sake of completeness = the already extensively published etiology, classification and treatment of women's traditional four sexual dysfunctions, the present article will discuss our proposals for an enhanced etiology and classification of women's sexual dysfunctions, and their practical representation by an easily readable schematic. A new menopausal syndrome terminology and the medicalization of sexuality with its influence on patient multifaceted categorization, is also put forward.

Female Sexology: treating sexual dysfunctions

Biological Reasons and/or Psychosocial Difficulties



Sexual Trauma (PTSD^e) – Behavioral Counseling Methods

Figure 1. Zwi Hoch - Schematic Academic and Clinical Tool for Women Sexual Dysfunctions (ACT) Classification (green); Etiology (blue); Treatment (red)

^a Genitourinary Syndrome of Menopause; ^b Sex Steroids Insufficiency Syndrome of Menopause (SISM); ^c Pelvic Organ Prolapse (POP); ^d Low-Dose ; ^e Post-Traumatic Sex Disorder (PTSD).

The traditional 4 sexual dysfunctions = Etiology, Classification and Treatment

Women's sexual desire

Women's sexual desire has two components, a biologic component (drive, urge) and a psychosocial component (motivation). The biologic component is mostly a testosterone-facilitated brain function also involving the neurotransmitters oxytocin, norepinephrine, dopamine, and melanocortin system, while the psychosocial component is influenced by none-testosterone related intra-psychic personal and relationship events (Kingsberg et al., 2017).

Sexual desire dysfunction [hypoactive sexual desire disorder (Kaplan, 1977, Lief, 1977)] is defined by absent or low sexual interest or desire and lack of sexual fantasies or thoughts, causing personal distress and interpersonal difficulty. As the most prevalent female sexual problem [(46% of menopausal patients complain of desire dysfunction (Nappi et al., 2013))], it mostly presents in midlife women after 45 years of age, including menopause (Shifren et al., 2008), premature menopause, primary ovarian insufficiency, as well as following bilateral oophorectomy at any age, and is due to ovarian "androgen insufficiency syndrome" (Bachman et al., 2002, Goldstein et al., 2017). First Money (Money J, 1965) and later Greenblatt (Greenblatt and Karpas, 1983) already affirmed that sex drive is hormonally influenced by androgen = the libido hormone for both sexes. In a 2019 meta-analysis of randomized controlled trial data to assess potential benefits and risks of testosterone for women, Islam et al. (2019) found that low-dose transdermal testosterone significantly increased sexual frequency, desire, pleasure, arousal, orgasm, responsiveness, self-image, and reduced distress in postmenopausal women, with minimal adverse events. It is now globally agreed upon (Davis et al., 2019) that the management of this mostly biological sexual dysfunction is based on hormone therapy, namely the off-label application of low-dose transdermal testosterone 1% gel (we use 300 mcg/day, while encouraging patient self-titrating dosage) closely interwoven with relevant psychosocial counseling and serum testosterone measurement every 6

months (ACOG Practice Bulletin No. 213, 2019, Davis et al., 2016, Goldstein et al., 2017, Shifren et al., 2000, Shifren JL et al., 2006, Shifren, 2014; Davis, 2016, Goldstein 2017, Shifren, 2018, Shifren and Davis, 2017, Shifren and Gass, 2014, Shifren et al., 2000, Shifren et al., 2006). The much smaller number of testosterone-intact younger patients with sexual desire problems, may need bupropion (Segraves et al., 2004) or bremelanotide, (Pfaus et al., 2007, Carson, 2019). We avoid using Flibanserin due to its side effects (Jaspers et al., 2016).

Women's sexual arousal (excitement)

Women's sexual arousal has two components, a biologic component (genital arousal) that is a rapid spinal reflex producing vasocongestion with vaginal lubrication; and a psychologic component (subjective sexual arousal) that is slower and influenced by cognition and emotions (Masters and Johnson, 1966).

In genital sexual arousal disorder, there is no vasocongestion with lubrication, despite feeling sexually excited. In other words, the reflex is inhibited. In subjective sexual arousal disorder the arousal reflex is functional and so vasocongestion with lubrication may occur when adequately sexually stimulated, despite not feeling aroused. This fact facilitates comfortable, painless coitus even by a sexually disinterested but consenting and cooperating woman. The lack of concordance between subjective arousal and genital arousal is addressed by education, directed self-stimulation, erotic fantasy, vibrators, sensate focus, and the addition of low-dose testosterone therapy in the context of desire disorders (ACOG Practice Bulletin No. 213, 2019, ACOG Practice Bulletin No. 214, 2019, Kingsberg et al. 2017).

Female orgasmic dysfunction

Female orgasmic dysfunction may present itself in various forms: lack of orgasm, substantially diminished intensity of orgasmic sensations, or delay of orgasm, whether by self-stimulation or with

partner, and despite self-reported adequate sexual desire/arousal and no sexual penetration pain (Masters and Johnson, 1966). Occasionally, intense orgasms accompanied by a more copious Skene's Glands female ejaculation (Alzate and Hoch, 1986, Rodriguez et al., http 2020, Whipple, 2014), are self-curtailed by the woman embarrassed by wetting the bed with ejaculatory fluid interpreted as urine by her partner. Treatment for female orgasmic dysfunction includes education, directed self-stimulation, erotic fantasy, vibrators, sensate focus, coital alignment technique, and the addition of LD Testosterone in the context of desire and arousal dysfunctions (Kingsberg, 2017). However, it is most important to address the patient's 'performance-oriented anxiety' (Masters and Johnson, 1966) by "permission giving" and = in the author's clinical experience = encouraging self-responsibility for her own satisfaction with "positive sexual selfishness."

Sexual pain with vaginal penetration

Sexual pain with vaginal penetration was classified into dyspareunia and vaginismus by the APA fourth edition (APA, DSM-IV- 2000), while its fifth edition confusedly combines the two dysfunctions into a single "Genito-pelvic pain/penetration disorder," (APA, DSM-V-2013). The present author concurs with Simonelli and DSM-IV that dyspareunia and vaginismus are two completely different entities etiologically and therapeutically (Simonelli et al., 2014), as further advocated below. Although dyspareunia may occur in younger women due to endometriosis, pelvic inflammatory disease, interstitial cystitis, uterine fibroids or cancer (Simonelli et al., 2014), the present article mainly concentrates on the more prevalent menopausal dyspareunia (prevalence 70%) = a central symptom of the recently coined genitourinary syndrome of menopause (GSM) (Portman and Gass, 2014). GSM is described as a chronic and progressive age-dependent genitourinary condition due to estrogen deficiency that includes vulvovaginal atrophy, vaginal tightening and dryness with mucosal thinning and easily bruising, as well as urinary urgency, dysuria, and recurrent urinary tract infections. The GSM symptoms are more severe

in early menopause, ovarian insufficiency and surgical menopause than in natural menopause (Kingsberg et al., 2020). All this symptomatology also affects sexual functioning (84%) with diminished lubrication, self-perception, body image and quality of life, with many women avoiding intimacy and accepting fewer sexual encounters due to painful sex. Moreover, couple guilt feelings and avoidance further worsen the situation (NAMS, 2020). Low-dose intra-vaginal estrogen therapy and gentle digital vaginal rehabilitation are the main GSM treatments. Partner cooperation in treating hypoestrogenic dyspareunia is crucial to lower patient distress (Simonelli et al., 2014).

Vaginismus, mostly encountered in young women, is an involuntary pelvic floor muscle spasm due to extreme fear of pain that blocks any form of vaginal entry (phobic avoidance). (Simonelli et al., 2014). Diagnostically, these patients are often happily married and well-motivated to solve their problem that negatively affects relationship and fertility. Although a vaginal examination is first impossible due to extreme uncontrollable fear of pain, these basically cooperative patients can easily be first taught self-responsibility with vaginal muscle self-mastery (contracting/relaxing). Next, we proceed with patient-controlled gradual digital vaginal entry of doctor's, then partner's fingers, while patient consciously first relaxes her peri-vaginal muscles. Finally, by instructing the motivated patient to "surprise" her unexpected partner with successful intercourse in female superior position, we transfer to her the responsibility for achieving a first painless vaginal entry. Such cognitive behavioral approach with systematic desensitization (Melnik et al., 2020) or hypno-desensitization, (Fuchs et al., 1978) is effectively solving this crippling sexual problem, with no need to address etiology (Simonelli et al., 2014).

Sexual trauma (PTSD)

Sexual Trauma is included in our "tool" as it often generates treatable sexual problems mostly related to sexual pain (Pulverman et al., 2019).

Recommendations

We will first proceed by discussing our recommendation to add two additional female sexual disorders to the traditional classification of women sexual dysfunctions, and propose the terminology for a new syndrome of menopause. A detailed description of the here-offered schematic educational and therapeutical “tool” for women sexual dysfunctions, and the division of patients into three categories deriving from the medicalization of sexuality, will then follow.

We propose to add “**structural sexual discomfort**” as a general, fifth, sexual disorder in women that is quite prevalent with various degrees of structural pelvic changes including POP, disrupted perineum, urinary stress incontinence or different forms and degrees of urinary incontinence, or fecal incontinence. A large body of research already covers this subject, but it was never classified = as here proposed = among the general sexual dysfunctions, nor was such classification offered in the recent “international ... report on the terminology for the assessment of sexual health of women with pelvic floor dysfunction” (Rogers et.al, 2017). POP and urinary/fecal incontinence appear to have a statistically significant negative impact on sexual function (ACOG Practice Bulletin No. 214, 2019, Athanasiu et al., 2012, Novi et al., 2005, Stedenfeldt, 2014), while also reducing the frequency of sexual intercourse and orgasm (Jeha and Gopinath, 2016). Vaginal discomfort with sexual intercourse generally develops in midlife patients already suffering of sexual desire dysfunction, all with deleterious impact on their body image, self-esteem, and the relationship’s intimacy (Handa et al., 2008, Moroni et al., 2019). United States women have a 13% lifetime necessity of undergoing surgery for POP (Wu et al.,2014). Reconstructive POP surgery results in statistically significant improvement in sexual function, while remarkably reducing dyspareunia (Antosh et al., 2020). Operating on the vagina should preferably be combined with low-dose vaginal estrogen before and after intervention, as well as post-operative low-dose transdermal testosterone, if needed. Gynecologists would be well advised to discuss sexual

function and dysfunction with their patients and partners both before and after POP surgery.

We further propose to add “**positional dyspareunia**” as a third and specifically separate form of sexual pain with vaginal penetration that can be felt by women at any age with deep penile thrusting hitting the centrally located cervix of a retroflexed uterus. One in five healthy women have a retroflexed uterus (O’Grady, 2020). Contrary to the anteflexed uterus, a retroflexed uterus does not elevate during the excitement and orgasmic platform stages of female sexual response (Masters and Johnson, 1966). These couples often resign themselves to the woman partner resigning to deep coital pain, and are surprised and happy to discover that the woman’s discomfort can be easily resolved by penile re-direction towards one of the vaginal cul-de-sacs, or by the woman assuming penile directional control by female superior coital position.

We also call for the introduction of a separate menopausal sexual dysfunction syndrome to be named “**sex steroids insufficiency syndrome of menopause**” (SISM) grounded on the evidence-based clinical facts that the severe estrogen deprivation symptoms of GSM are further complicated, in many menopausal patients, by decreased sexual desire due to midlife testosterone insufficiency (Nappi et al., 2013). Such combination of estrogen and testosterone deficiencies can substantially affect the patient’s sexual health, while also deteriorate the couple’s relationship and quality of life. A recent ‘Expert Review’ on this very subject (Gandhi et al., 2016), although mentioning “loss of libido” as a complaint in conjunction with GSM, failed to offer any specific treatment. In order to highlight the decreased sexual desire component so often neglected when treating this patient population, we propose to use the GSM acronym only when specifically referring to the *physical* urogenital symptoms resulting from estrogen deficiency, while integrating sexual desire dysfunction of menopause with GSM into one single inclusive etiologic-diagnostic-therapeutic entity under the acronym **SISM** whenever discussing sexual dysfunction in menopause. With most of these patients, while dyspareunia increases in severity due to

estrogen depletion, the testosterone-dependent urge of sexual desire continues to decrease after the age of 45. The combination of low-dose vaginal estrogen + low-dose transdermal testosterone therapies will improve both the physical sexual pain dysfunction and the negatively-affected sexual desire brain function. In other words, low-dose vaginal estrogen will re-establish a well-lubricated vagina and physically comfortable penile vaginal entry and containment, while low-dose transdermal testosterone will improve the patient's interest in sex and motivation thereof, while also restoring her self-esteem and mutual relationship.

The here-offered “**new schematic Academic and Clinical Tool (ACT)**” for the treatment of women's sexual dysfunctions ([Fig. 1](#)) encompasses = on one single page = all traditional as well as the newly here-proposed female sexual disorders, while also introducing a new sexually-impacting menopausal syndrome. The present configuration of this “tool” originates from the author's experience in teaching medical and PA students as well as gynecological residents on Female Sexual Function and Dysfunctions, and from treating sexually dysfunctional women within the usual constraints of repetitive 15-minutes-slots-per-patient time allotted in a regular gynecological office practice. Unfortunately, there still is considerable apprehension expressed by many clinicians on “opening pandora boxes” without adequate knowledge or/and available time for female sexuality in a “fast moving” physician office. However, with the advent of increased medicalization of sexuality [(or, perhaps better, “pointed medicalization of sexual dysfunctions” (?)], more clinicians are feeling comfortable to deal with their own patients' sexual problems ([Giami, 2002](#), [Giraldi and Kristensen, 2007](#)). Social scientists, psychologists, pharmacologists, endocrinologists, psychiatrists, have all important roles to play in the “functional sexuality” field ([Giami and Spencer, 2004](#)) but = at the end of the day = it is the gynecologist, the primary care physician, the urologist who embody “the first-line of responders” to their own patients' sexual dilemmas ([Goldstein et al., 2017](#)); and it is here where our “tool” can mostly

assist them to ACT confidently by integrating women's sexual health into their practices.

For practical purposes, we use a balanced multifaceted/eclectic approach by dividing our sexology patients into three treatment categories: (1) Midlife women with Sexual Desire Dysfunction, Sexual Pain with Vaginal Penetration, and Structural Discomfort with Sexual Intercourse = the largest group combination = who will most benefit from a straight-forward medical office model; (2) Patients with arousal and orgasmic dysfunctions who will primarily need sex therapy; and (3) Sexually dysfunctional couples with severely affected relationships resulting from or producing the dysfunction, who require specialized referral, preferably for cognitive behavioral counseling ([Sungur and Giarni, 2020](#)). For Category (1) patients, our treatment model primarily concentrates on the biological dimension of the respective female sexual dysfunction, combined with education and subjective psycho-social support, but = for therapeutical reasons = our model purposefully skips addressing the relational dimension of the couple. Most of these women are still in mutually healthy, loving relationships, and their main motivation for treatment is to restore their own sexual desire, resolve their crippling dyspareunia or alleviate their discomfort with sexual intercourse, without having to fear potential performance pressures from their now happier sexual counterparts. For our Category (2) patients, on the contrary, the relation with the partner as a possible factor for sexual dysfunction and/or improvement of the condition is explored from the beginning, thus forging therapeutic alliance with both partners. We believe that the either/or approach of the medicalization of sexuality critics ([Hart and Wellings, 2002](#), [Rowland, 2007](#), [Tiefer, 2007](#)) engender a disservice especially to the above Category (1) midlife patients (the majority) who enjoy the interface between sexual medicine and their own doctor's psychosocial support within a safe and supportive familiar office environment.

We chose to give our "tool" a fluid schematic presentation that focuses more on comprehending and spreading information. We used simple lines, symbols and words to communicate knowledge on "what"

(classification of female sexual problems), “how” (etiology) and “where” (where to intervene therapeutically), that could be easily understood by both students and patients (Lim, 2019). A horizontal reading of the “tool” concisely integrates the classification (green letters); etiology (blue letters); treatment by sexual dysfunction (red letters); and patients by age (black letters). The vertically-directed arrows indicate the relationships and inter-relationships between the above areas. The present schematic should, however, not yet be conceived as a “final instrument”, but rather as a flexible accessible “tool” still pending educational and clinical peer-testing for establishing utility.

Conclusion

A biopsychosocial academic and clinical schematic “tool” (ACT) for the treatment of women’s sexual dysfunctions (Fig 1) was created to address the existing paucity in educative and therapeutic instruments. This schematic proved itself = in the author’s experience = as a very helpful practical supplement to a gynecological/medical office environment that teaches students and residents, and treats patients, both face-to-face and by telemedicine, within traditional 15-minutes-slot-per-patient in single or repeated visits. Our “tool” also offers innovative classification and terminology proposals:

- to add “structural sexual discomfort” due to POP and/or urinary/fecal incontinence, as a fifth general form of women’s sexual disorder best treated surgically;
- to add “positional dyspareunia” as a third, specific form of sexual pain dysfunction due to retroflexed uterine orientation, easily manageable by adequate coital instructions;
- proposes to reserve the GSM acronym for describing the physical symptomatology of estrogen deficiency in menopause, while integrate sexual desire dysfunction of menopause with GSM into one single inclusive etiologic-diagnostic-therapeutic entity under the **SISM** acronym, when referring to the complexity and prevalence of late midlife women sexual dysfunctions.

The increasing medicalization of sexuality, when combined with education and pertinent psychosocial counseling, has facilitated the wider and more comfortable management of the majority of female sexual dysfunctions [our categories (1) and (2)] in the framework of gynecological and other medical offices,

thus offering help in a patient-familiar environment. Our “tool” provides a practical visual support frame and additional insight for today’s burgeoning eclectically diversified therapeutical models.

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The author declares that he has no competing interest.

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Figure legend

Figure 1(pdf.) Zwi Hoch - A Schematic Educational and Clinical Tool for Women Sexual Dysfunctions: Classification (green), Etiology (blue), Treatment (red).

^a Genitourinary Syndrome of Menopause; ^bSex Steroids Insufficiency Syndrome of Menopause;
^c Pelvic Organ Prolapse; ^d Low-dose ; ^e Post-traumatic Sex Disorder.

La légende

Figure 1(pdf.) Zwi Hoch – Un Outil Pédagogique et Clinique Schématique pour les dysfonctions sexuelles des femmes : Classification (vert), Étiologie (bleu), Traitement (rouge).

^aSyndrome Génito-urinaire de la Ménopause ; ^bSyndrome d’Insuffisance de Stéroïdes Sexuels de la Ménopause ; ^c Prolapsus des Organs Pelviens ; ^d Faible-dose ; ^e Trouble Sexuel Post-traumatique