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Challenges in the Practice of Sexual Medicine in the Time of COVID-19 in the United States

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The 2019 Coronavirus disease (COVID-19) has in a period of just months completely upended travel, commerce, and daily life throughout the world. Medical practitioners have been forced to care for a surge of ill patients, in many cases, without access to testing and appropriate protective equipment. The impact of COVID-19 on research has been no less profound, with restrictions in terms of access and funding. The disease has been politicized from many angles; the economic consequences of this crisis will be long-lasting and unpredictable. For sexual medicine providers, the effects of COVID-19 are also numerous and multifactorial. In this article, we highlight some key aspects of the effects of COVID-19 on sexual medicine and how we can respond.

IS SEX A PRIORITY DURING A CRISIS?

Sexual medicine providers have a specialized skill set and facility in addressing sensitive issues. Under routine circumstances, this makes us invaluable to our colleagues who frequently lack the skills and temperament to address human sexuality. These specialized skills may be less obviously useful in our current crisis. Most sexual medicine specialists have knowledge and abilities derived from other training (eg, urology, obstetrics/gynecology, psychiatry) which may have greater immediate utility. We as a body should be ready to expand our non—sexuality-focused skills sets. We should be ready to acknowledge our limitations but strive nevertheless to meet the pressing needs of our hospital systems and communities.

This flexibility in mode of practice is particularly salient given the implication of the decrease in "nonessential" health-care visits to our referral base. Without these referrals, sexual medicine providers' ability to generate revenue will certainly decline. This decline will be compounded by a major economic downturn that will compromise patients' willingness to pay for specialized services or providers that are not covered by insurance. For our own economic survival, we should be willing to adapt the makeup of our practices.

Should we even continue with the practice of sexual medicine under current circumstances? Our answer is an unequivocal yes. Sex still matters. Patients have continued to seek us out for advice on sexual issues. Indeed, a case can be made for the importance of supporting healthy sexuality in the context of "shelter-in-place" and "social distancing." Living in forced close proximity can be challenging even for intimate partners who share cordial relations. Sexuality, with the attendant biologically mediated intimacy and closenesss it engenders, is an essential element for maintenance of cohesion in relationships.[1,2] Specialists in human sexuality may play a substantial role in helping people navigate this challenging time. Sexual health and emotional/physical well-being are tightly intertwined.[3] Stressors (eg, lack of childcare, financial difficulties, insecure employment, and lack of regular exercise) may be more intense and prevalent in our current circumstances, but sexual wellness may help to mitigate some of these negative effects.

Will enforced close cohabitation lead to an increase in amorous activity? Short-term crises have a purported association with spikes in sexual activity as evidenced by postevent "baby booms." The notion of enhanced sexual activity under situations of stress appeals to both prurient interests and a human desire to see positive effects of negative events. However, birth records have not in fact substantiated predictable increases in birth rates after crises.[4]

SURGERY AND SEXUAL MEDICINE EMERGENCIES

Our ability to provide surgical treatments for sexual concerns must of necessity be curtailed. An initial and continued priority has been limiting the number of inpatient beds occupied by non—COVID-19 patients. Even outpatient surgeries (including most procedures in sexual medicine) require utilization of personal protective equipment and personnel that are being conserved for epidemic preparedness.[5] The risk of transmission between team members and/or patients during surgical procedures must also be considered and is an additional reason to limit gatherings of health-care providers.

Are surgeries for sexual issues ever appropriate under current circumstances? A variety of triage and prioritization schemes have been developed and used in various settings. Unifying features of these classification schemes include prioritization of surgeries performed to prevent death, permanent dysfunction/loss of an extremity/organ system, and/or imminent metastases. A triage system for urologic procedures during COVID-19 was recently published by the Department of Urology at the Cleveland Clinic;

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it is noteworthy that both penile prosthesis and Peyronie's surgeries were classified as in the lowest priority tier of a 5-point scale.[6] Appropriately, treatment of infected penile prosthesis, repair of penile fracture, and management of priapism remain in the top tier of prioritization.[6]

Similar guidance on gynecological procedures has been published; it is noteworthy that none of the gynecological procedures listed with specific guidance on prioritization are per se related to sexual function.[5] That said, sexual benefit is common with many gynecologic surgeries, even if sexual well-being is not the primary focus of the intervention.[7] A case can be made that certain diagnoses in female sexual medicine (eg, clitoral priapism, severe clitordynia or other genital pain syndromes, persistent genital arousal disorder) may be sufficiently disabling that emergent management, including surgery, may be appropriate.

WELCOME TO MY CHAT ROOM

The practice of medicine via internet has been incrementally increasing over the past several years. The COVID-19 crisis has accelerated adoption of telemedicine and made its advantages (and limitations) readily apparent.[8]

Even before the imperative for social distancing, there was a strong case to be made for telemedicine.[9] Patients prioritize convenience and accessibility. Concierge style clinics that promise same or next-day appointments, particularly during off hours, have proliferated in recent years.[10] Telemedicine makes such prompt scheduling options viable for individuals who have busy schedules and/or live in locations distant from their provider. The benefits of teleconsultation can be substantial in terms of reducing travel costs and time away from work or personal obligations. The technology has been readily adopted by young people, who are generally comfortable with online communication.

In many ways, sexual medicine is ideal for telemedicine. Sexual medicine care providers are a highly specialized group of clinicians who are frequently based in metropolitan areas. Patients travel great distances to see us; telemedicine may increase our reach to patients who cannot otherwise access specialized care.

There are some limitations to using telemedicine in sexual health. Sexual medicine specialists are comfortable examining genitals. Will this comfort translate to the context of video medical consultations? Practitioners and patients may experience discomfort with the notion of examining genitals remotely via video link, particularly given the common use of said technology in the context of pornographic Web-cams. Legitimate concerns also exist regarding security of Web links. The new phenomenon of "Zoombombing" necessitates careful attention to security during video encounters.

Given potential limitations and challenges to video-based examination of genitals, is it even necessary? Existing guidelines on evaluation and management of male sexual dysfunction have tended to deprioritize the physical examination, particularly in the context of erectile dysfunction.[11] Evaluation of Peyronie's disease presents a greater challenge, although home photography may be of some use for noninvasive management planning. It remains essential that an in-person physical examination be considered before utilization of any invasive therapy for Peyronie's disease.[12]

Evaluation of women with sexual concerns via video visits is potentially challenging. Evaluation of sexual pain, a common source of sexual dysfunction in women, is best accomplished with a thorough physical examination including tactile components.[13] As such, appropriate diagnosis and management of sexual pain disorders in women will be very difficult to realize so long as in-patient visits are curtailed. The most common sexual health complaint of low desire is often ideal for telemedicine, but many of these women have concomitant pain concerns that merit in-person evaluation.

It is essential that adequate technical support be available for patients using video consultation. This is particularly critical for patients who are not technologically sophisticated and/or patients who are not fluent in their provider's language. Another delicate but salient issue is reimbursement. Insurance payments are generally highest for in-person consultations, with video consultations reimbursing less and telephone consultations billing very little. Sexual medicine specialists whose patients are reliant on insurance coverage will be impacted with diminishing returns for patient consultations. Consideration should be given to advocating for higher reimbursement rates for video visits, particularly since the primary value of most medical consultations is in the conversation between patient and provider. Critically, United States laws and regulations regarding billing and the practice of medicine via video links and/or across state lines have been modified.[14]

EXACERBATION OF SEX/GENDER DISPARITIES DUE TO COVID-19

The impact of decreased emphasis on sexual wellness may impact women disproportionately. Women's sexual health was often overlooked in health-care settings even before COVID-19.[15] Presuming that the topic of sexual health is even acknowledged during a woman's health-care visit, primary care providers are often not knowledgeable about effective pharmacotherapies and clinical pathways to address low sexual desire in women.[16] Referrals for discussion of sexual wellness in women may not occur given the perception that nothing can be done. We should collectively advocate that the long-stand disparity in provision of care for women's sexual health does not worsen during this crisis.

Women may also be at increased risk of interpersonal violence during COVID-19. Data from early pandemic period suggested increases in divorce rates and more disturbingly up to a 3-fold increase in allegations of domestic violence.[17] Unfortunately,

preliminary data from the United Nations suggest surge in domestic violence during COVID-19 is a global problem.[18]

COVID-19 AND EDUCATION

The impact of COVID-19 on medical education has been profound, particularly with respect to residents and fellows. A trend toward increasing reliance on online learning has been markedly accelerated by the necessity of social distancing. In addition to formal didactics transitioning to a digital format, virtual meetings may become a routine for the foreseeable future. The fact that most practitioners and trainees have smartphones and personal computers with video links has made this transition much smoother than it would have been even 10 years ago.[19] Whether the learning in these other contexts will be of the same quality as in the past remains unclear.

While didactic learning is adaptable, surgical learning is not. Case volumes have plummeted, and the odds of trainees graduating programs with minimal exposure to sexual medicine procedures have increased. In many training programs, residents progress through structured rotations, each of which provides exposure to specific experiences and patient populations. In urology and gynecology training programs, there are typically many opportunities to learn management of cancers, benign genital conditions, and other routine procedures. Exposure to sexual medicine is generally less robust, particularly in gynecology. Residents who have minimal exposure to procedures in sexual medicine are less likely to be interested in our field. If the pandemic persists, we must, as a group, determine how we will maintain interest in recruiting our next generation.

While hands-on experiences may have suffered, a silver lining to the epidemic has been rapid proliferation of multiinstitutional learning platforms. One example of this is the Urology Resident Lectures Series, a collaborative multiinstitutional online platform for hosting expert lectures on various topics in urology, including several on sexual medicine.[20] This is also being performed in many obstetrics and gynecology residencies.[21]

LOOKING AHEAD

Although the future is uncertain, there can be no doubt that life will not return to "normal", at least normal as we have defined it. When the pandemic is brought under control, it is almost certain that there will be long-term repercussions across all domains of human endeavor, including sexual medicine. We must strive as a body of professionals to ensure that the sexual health needs of our patients remain a priority in terms of access to clinical care and innovative research.

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REFERENCES

1. Cacioppo S, Bianchi-Demicheli F, Frum C, et al. The common neural bases between sexual desire and love: a multilevel kernel density fMRI analysis. **J Sex Med 2012;9:1048-1054.**
2. Coria-Avila GA, Manzo J, Garcia LI, et al. Neurobiology of social attachments. **Neurosci Biobehav Rev 2014;43:173-182.**
3. Basson R, Gilks T. Women's sexual dysfunction associated with psychiatric disorders and their treatment. **Womens Health (Lond) 2018;14; 1745506518762664.**
4. Snopes. Post 9/11 Baby Boom. Available at: https://www.snopes.com/fact-check/baby-boom-3/. Accessed May 3, 2020.
5. Weber Lebrun EE, Moawad NS, Rosenberg EI, et al. COVID-19 pandemic: staged management of surgical services for gynecology and obstetrics. Am J Obstet Gynecol https://doi.org/10.1016/j.ajog.2020.03.038. E-pub ahead of print.
6. Goldman HB, Haber GP. Recommendations for tiered stratification of urological surgery urgency in the COVID-19 era. J Urol https://doi.org/10.1097/JU.0000000000001067. E-pub ahead of print.
7. Danesh M, Hamzehgardeshi Z, Moosazadeh M, et al. The Effect of Hysterectomy on Women's Sexual Function: a Narrative Review. **Med Arch 2015;69:387-392.**
8. Hollander JE, Carr BG. Virtually Perfect? Telemedicine for Covid-19. **N Engl J Med 2020;382:1679-1681.**
9. Frakt A. You Mean I Don't Have to Show Up? The Promise of Telemedicine. New York Times. Available at: https://www.nytimes.com/2016/05/17/upshot/you-mean-i-dont-have-to-show-up-the-promise-of-telemedicine.html. Accessed May 3, 2020.

10. Abelson R, Creswell J. The Disappearing Doctor: How Mega-Mergers Are Changing the Business of Medical Care. Available at: https://www.nytimes.com/2018/04/07/health/health-care-mergers-doctors.html. Accessed May 3, 2020.
11. Burnett AL, Nehra A, Breau RH, et al. Erectile Dysfunction: AUA Guideline. **J Urol 2018;200:633-641.**
12. Nehra A, Alterowitz R, Culkin DJ, et al. Peyronie's Disease: AUA Guideline. **J Urol 2015;194:745-753.**
13. Goldstein AT, Pukall CF, Brown C, et al. Vulvodynia: Assessment and Treatment. **J Sex Med 2016;13:572-590.**
14. Medicare telemedicine health care provider fact sheet. In: Services, Center for Medicare and Medicaid Services. Available at: https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet. Accessed May 3, 2020.
15. Sobecki JN, Curlin FA, Rasinski KA, et al. What we don't talk about when we don't talk about sex: results of a national survey of U.S. obstetrician/gynecologists. **J Sex Med 2012;9:1285-1294.**
16. Clayton AH, Goldstein I, Kim NN, et al. The International Society for the Study of Women's Sexual Health Process of Care for Management of Hypoactive Sexual Desire Disorder in Women. **Mayo Clin Proc 2018;93:467-487.**
17. Prasso S. China's Divorce Spike Is a Warning to Rest of Locked-Down World. Bloomberg Businessweek. Available at: https://www.bloomberg.com/news/articles/2020-03-31/divorces-spike-in-china-after-coronavirus-quarantines. Accessed May 3, 2020.
18. United Nations. UN chief calls for domestic violence 'ceasefire' amid 'horrifying global surge'. Available at: https://news.un.org/en/story/2020/04/1061052. Accessed May 3, 2020.
19. Shwayder M, Sampathkuimar M. How coronavirus is forcing online learning to evolve. Digital Trends. https://www.digitaltrends.com/news/online-education-innovation-coronavirus/. Accessed May 3, 2020.
20. Urology Collaborative Online Video Didactics (COVID). https://urologycovid.ucsf.edu/. Accessed May 3, 2020.
21. UCSF National Remote OBGYN Resident Didactics. Available at: https://obgyn.ucsf.edu/residency-program/national-curriculum. Accessed May 3, 2020.