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ORIGINAL ARTICLE

COVID-19 and sexualities: The emergence of a new paradigm of sexualities

COVID-19 et sexualités : l'émergence d'un nouveau paradigme des sexualités

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Summary This paper aims to propose a provisional assessment of the research developed in the context of the COVID-19 pandemic since the beginning of 2020. It reviews the types of research already published, presents their methodologies and analyzes the questions posed. It places recent research in the perspective of the history of empirical research on sexuality, particularly in relation to research carried out in the context of HIV/AIDS. Situated in an intellectual history perspective, the article analyzes research currently being developed as the construction and prefiguration of a new paradigm of sexualities that distinguishes and associates sexual relations that take place in the presence of a real partner and those that take place with the help of a whole range of electronic devices qualified as "virtual" that provide support for the imagination and maintain sexual arousal for personal satisfaction.

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MOTS CLÉS

COVID-19 ;
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Résumé Cet article vise à proposer un bilan provisoire de la recherche développée dans le contexte de la pandémie de COVID-19 depuis le début de l'année 2020. Il évalue les types de recherche déjà publiés, présente leurs méthodologies et analyse les questions posées. Il replace les recherches récentes dans la perspective de l'histoire des recherches empiriques sur la sexualité et notamment par rapport à celles qui ont été réalisées dans le contexte du VIH-sida. Situé dans une perspective d'histoire intellectuelle, l'article analyse les recherches actuellement développées comme la construction et la préfiguration d'un nouveau paradigme des sexualités qui distingue et associe les relations sexuelles qui se déroulent en présence d'un partenaire réel et celles qui se déroulent avec l'aide de toute une panoplie d'outils électroniques qualifiés de « virtuels » qui assurent un support à l'imagination et entretiennent l'excitation sexuelle en vue de la satisfaction personnelle.

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The COVID-19 pandemic has been affecting much of the world since the beginning of 2020. Epidemiological surveillance and analyses of health policies implemented here and elsewhere clearly show that this pandemic is progressing at different rates and intensities in different regions of the world and among different social groups and populations affected by it. Ongoing studies also show that the differences in prevalence between individuals and between populations are not only the result of the strength and capacity of reproduction and propagation of the virus, the immunization capacities of individuals and the climate, but also of the living conditions and habitat of individuals, their lifestyles and the coherence and adequacy of the health responses implemented by governments (Galmiche et al., 2020). Contradictions, inconsistencies and day-to-day adaptations according to political stakes, as well as scientific controversies on treatments (Bertlivet and Löwy, 2020) have had a lasting impact on public responses to this pandemic and have undermined the trust of populations in political and health authorities. Beyond the actual pathophysiological consequences of the virus on the organism in general and on sexual and reproductive functions in particular, the health measures have had definite and often deleterious effects on lifestyles, ways of working, having relationships, and having sex, and it is the impact of these measures on sexual life that has been the subject of the majority of the published work, which will be discussed here.

The various media have developed a whole series of accounts of the mostly negative “impacts” of the pandemic but also of the forms of resistance and creativity that are developing in response to measures of confinement, physical and social distancing, reduced movement and the wearing of protective masks (Döring, 2020). The effects of the health and social measures implemented become all the more visible when addressing the sexual lives of individuals and populations, insofar as close physical contact is now subject to restrictive measures that make sexual intimacy difficult.

In this article, the first developments in research on the theme “COVID-19 and Sexuality”, which were published from the beginning of 2020, less than six months before the writing of this text, are analyzed with a view to putting research on this theme into perspective in the history of research on sexuality and particularly the links between HIV/AIDS and COVID-19 and sexuality. This approach aims to bring out the main features that appear and that prefigure the transformations in sexual activity that are beginning to take shape in the pandemic and post-pandemic context, in contrast to the HIV/AIDS epidemic that has profoundly marked sexual life in the 20th century. From an intellectual history perspective (Grafton, 2006), published research is analyzed here not from the point of view of its achievements and results but from the point of view of the questions it raises – and does not raise – those that are already the subject of consensus and those that fuel controversies.

Paradigms of research on sexualities and sexual behavior

The main major surveys on sexual behavior have been carried out since the beginning of the 20th century, first in

Europe and then in the United States (Erickson and Steffen, 1999) in response to social problems caused by living conditions, the limits of sexual morality, poverty and inequality. From the outset, two models were developed: the European model developed by Magnus Hirschfeld during his survey of homosexuals (Hirschfeld, 2000) and in the United States with Alfred Kinsey’s work on sexual behavior in the general population (Gagnon, 1975). Kinsey’s work did not fall from the sky or came out of a brain obsessed with sexual issues. They responded to the social issues of his time and were funded by the Rockefeller Foundation until their results went beyond what was expected by these institutions by challenging the dominant sexual morality and unleashing unexpected political violence (Bancroft, 2004). Then came the 1970s, marked by work on contraception, premarital sexuality, and communication within the couple (Simon et al., 1972). The end of the 1980s marked the beginning of the long series of regional, national, and international surveys carried out in response to developments in the HIV/AIDS epidemic. At that time, the urgent need was to identify the behaviors and groups at risk of infection, particularly gay men (Catania et al., 1996; Giami and Schiltz, 1996). In this new model of sexual behavior surveys, an attempt was made to explore sexual practices and relationships previously unknown to the general public. It was “discovered” that some men could report having had thousands of sexual partners, whereas in the early 1990s, more than half of heterosexual women reported having had only one partner in their lifetime. The surveys developed at that time invented a new way of thinking about sexuality and sexual intercourse from the point of view of “risk-taking” by distinguishing between protected and unprotected sex (Giami, 1993). This classification thus made it possible to deduce the psycho-social and even psychopathological characteristics of those who chose one or the other of these modalities. The main limitation of these studies was that it was actively ignored that older people (over 59 years old in the United States and over 69 years old in France) still had a sexual life. The development of treatments for male impotence, which began in the early 1980s, accompanied the development of a new model of surveys, this time more focused on the sexuality of older people, especially older men (Feldman et al., 1994).

The “physical distancing” and social measures that have been recommended for this new pandemic go far beyond those recommended for the prevention of the sexual transmission of HIV. In this case, it was recommended to avoid “unprotected” sex, i.e., sex without the use of a latex condom worn on the penis of the insertive partner (genital, anal or oral). However, there was no recommendation not to kiss, hug, or simply touch each other’s skin, practices which had become “safer practices” such as masturbation sometimes recommended in collective “jerkoff parties” in order to keep a collective sexual sex culture alive (Frank, 2019). The HIV/AIDS epidemic and the preventive responses implemented both by the health authorities and by the organized communities of those most affected had thus contributed to a major re-conceptualization of sexuality scripts dominated by the notion of risk and the opposition between risky practices, low-risk practices and safer-sex practices (Giami, 1993).

While the work of the AIDS years and those that followed in this perspective considered certain characteristics

of sexual activity as a risk factor, the new interest in the effects of aging and chronic disease on sexuality constitutes in a way a break with the pessimistic model of sexuality. Far from constituting a risk factor in itself for other dangers or pathologies, and in particular sexually transmitted infections and the occurrence of unwanted pregnancies, we began to look for risk factors that constituted obstacles and limitations to the frequency and quality of sexual function, such as certain chronic diseases (cancer, and diabetes) or aging in general. In this perspective, some urologists considered that erectile dysfunction could be considered a “sentinel symptom” (Bondil, 2004) of more serious pathologies (endothelial dysfunctions) and that it was important to screen for erectile dysfunction as a form of prevention of hidden and serious pathologies. The advent of the viagra culture (Tiefer, 1998) marked, in a way, the return of an optimistic conception of sexuality, considering that “natural sexual activity” was a fundamental dimension of health and well-being (WHO, 2010). This sexual optimism was supported by the pharmaceutical industry contributing to the pursuit of well-being and happiness with two flagship and emblematic products of this period: prozac and viagra. However, this optimism has had its downside with the increase in visibility and work on sexual violence and in particular violence against women (Jaspard and Équipe Enveff, 2003).

Thus, on the one hand, we see the opposition between sexual optimism, which considers sexuality to be a fundamental component of health and well-being, and on the other hand, the emergence of the prevalence and the problem of sexual violence against women. In between, the sexual rights framework developed from the mid-1990s onwards by non-governmental organizations such as WAS and IPPF and aimed at protecting and supporting sexual freedom and access to health care and, on the other hand, protecting women and vulnerable people from violence against them and infringements on their sexual freedom and the right to control their own bodies. In the perspective that has just been mentioned, we will try to identify the trends that emerge from the scientific publications made since the beginning of the pandemic, i.e. since the beginning of the year 2020.

“COVID & Sexual”

Beyond the specific effects of measures of confinement and social distancing, sexuality operates as a magnifying mirror and a revealer of the social, relational and psychological contradictions of an era and a culture. In this perspective, Gagnon and Simon’s theory of Sexual Scripts (Simon and Gagnon, 1986) provides us with tools for analysis and understanding in order to better understand the different dimensions and modalities of the changes taking place, at the cultural, social and political, relational and personal levels, which are intertwined in an intimate way. The multi-disciplinary perspective is once again imposed in the situation in which we find ourselves.

Certainly if the virus in its specific ontology affects some of us in body and soul, it is above all the health and political measures implemented that impact all populations and each one of us. These measures provoke individual and collective reactions, psycho-social effects, emotions and cognitions,

and in some cases psychopathological (Torales et al., 2020) and finally effects on individual and relational sex life, sexual function (desire, arousal, erection, lubrication, and orgasm) and sexual satisfaction.

Research production

A survey conducted on December 8, 2020 using the keywords “COVID & Sexual” returned 381 publications referenced on Medline. In contrast, another search performed on Medline on January 4, 2021 using COVID-19 as a key word, indicates the presence of 86,170 publications. In addition, a direct search of the main sex research journals revealed 33 publications in the *Journal of Sexual Medicine* and 11 publications in the *Archives of Sexual Behavior*. The journal *Sexual and Reproductive Health Matters* published a special issue on Sexual and Reproductive Health and Rights in its April 2020 issue (Hussein, 2020). This journal has focused its publications around the issue of promoting and preserving human rights and sexual and reproductive rights, which are known to be at risk in the face of difficulties in accessing health systems due to the pandemic and the shortage of beds and well-trained health workers in many industrialized countries. The journal *Archives of Sexual Behavior* has issued a “Call for Papers” (CFP) (Scott-Sheldon et al., 2020) dated May 4, 2020. The journal *Sexologies* launched the call for publications that led to the production of this issue on June 7, 2020. Other journals have articles under review that will be published in the coming weeks. It is however interesting to note that the majority of the papers published on the theme of “COVID & sexual” have been published in journals that are not sexological journals, but medical or general social science journals, indicating an interest in sexuality/sexual health issues outside the field of sexology. There are disparities in the volume of publications. While teams from the United States, India, and China produced the greatest number of articles ($n > 20$), it is less easy to understand why the French teams published only one article (Landry et al., 2020) while the Italian (Caruso et al., 2020; Panzeri et al., 2020) and Spanish teams, countries in which the pandemic developed in a manner comparable to that of France, published many more. Other studies have been published in the United Kingdom (Jacob et al., 2020) or Poland (Fuchs et al., 2020). In addition, the main sexuality research institutes, notably the Kinsey Institute (Indiana University) in the United States (<https://kinseyinstitute.org/research/covid-19.php>) (Lehmiller et al., 2020) and the NATSAL program (<https://www.natsal.ac.uk/natsal-covid-study>), which brings together a consortium of universities in the United Kingdom, have launched ambitious research programs on this topic, drawing on the experience of prior surveys in the general population and survey and data analysis technologies.

Methodological approaches

A quick “narrative” analysis of the published work reveals a great disparity in methodological approaches. One can find representative samples with several thousand participants as well as surveys of so-called convenience samples

recruited on a voluntary basis during calls for participation on social networks (Gouvernet and Bonierbale, 2020), active queues of patients in a hospital or clinic. Some surveys have focused on the general population while others have targeted discriminated groups such as LGBT populations (Barrientos et al., 2021) or migrants. A large proportion of the surveys are carried out using self-administered questionnaires filled out online and few of them benefit from the intervention of interviewers, by telephone, in health care facilities or at home.

The NATSAL-COVID survey collected 6657 questionnaires with a 38% response rate using the quota method with an over-representation of LGBT groups. Using a snowball recruitment method, the Kinsey team collected 1559 questionnaires of which 71% were from women. In these two surveys, the relational and cohabiting status of the participants appears as one of the main explanatory variables of the frequency of different behaviors and the associated satisfaction. The question of the relative frequency of sex at birth remains to be asked as in a large part of the published studies, a majority of the participants are women. This is probably due to the recruitment methods often associated with the women's press.

Research topics

The call for papers in the journal *Archives of Sexual Behavior* provides comprehensive information on the issues that can be addressed by researchers (Table 1).

This call for publication outlines a field of research that does not take into account the dimensions of the physiopathological impact of the virus itself on sexual and reproductive function, which is confirmed by the themes of the articles already published. On the whole, sexuality is constructed in this document as a social and health system that takes into account human and sexual rights.

Beyond the study of the transformations in sexual activity and forms of intimacy, many articles deal with the effects of the pandemic on the organization of health care and health systems, the difficulties and modes of adaptation of health professionals (Pascoal et al., 2020). There is a strong interest in studying the consequences of the pandemic (as a health and political response) on mental health and on gender and child violence in worlds that remain confined for a long time.

Consensus and controversies

With the advent of COVID-19, any intimate bodily contact is now considered to be a practice and a situation where there is a risk or even a high risk of transmission of the virus. In places where people are supposed to be able to get close to each other, the distance to be kept from other people is indicated by visible signals. In cinemas, theaters, and places of worship – when these are open to the public – it is recommended to leave empty seats between spectators, except for groups or members of the same family who have retained the right to stay close. It is difficult to imagine that such recommendations and sometimes the obligation to stay at home, for example, have not had an impact on sexual life with a partner ("sociosexuality"), whose characteristic is, for the majority of the population, based on

Table 1 Call for publication *Archives of Sexual Behavior* (Scott-Sheldon et al., 2020).

Impact of COVID-19 on sexual risk behaviors, especially among groups at risk for HIV and other sexually transmitted infections (STIs)
Impact of COVID-19 on disruptions to sexual and reproductive health care services or care for patients living with HIV
Implications of the COVID-19 pandemic on sexual and reproductive rights
Impact of social and economic mitigation measures on sexual and reproductive health in all populations, including young people, women and girls, lesbian, gay, bisexual, and transgender people, refugees and migrants, the poor and uninsured, and people who are living with HIV and other STIs
Impact of COVID-19-related education and workplace disruptions on sexual health
Effect of social distancing, isolation, and quarantining on domestic and gender-based violence and couple conflict
Impact of social mitigation measures on relationships, including sexual and relational quality
Impact of COVID-19 and social mitigation measures on mate choice and mate preferences, including mating strategies, infidelity, and dating behavior
Impact of sexual stigma and discrimination on COVID-19 treatment and care
Impact of COVID-19-related mental health and trauma on sexual health
Lessons on sexual and reproductive health that we have learned from other coronaviruses such as SARS, H1N1 influenza, and Ebola, natural disasters, or terrorist events

physical closeness with exchange of fluids and contact of the skin. This situation has made it difficult to establish relationships with "non-cohabiting" or "occasional" partners, i.e., those who do not have relationships established by a contract. It is obviously different with regard to masturbation and forms of "self-sexuality" or self-eroticism and the consumption of various forms of pornography that do not require the presence of another physical person, in flesh and blood but simply with a good dose of fertile imagination.

A consensus is beginning to emerge through meta-analyses and the many literature reviews that are evaluating the effects of the pandemic on sex life based on surveys that have been conducted and published in recent weeks with some emergency. The frequency of partnered sexual activity and sexual satisfaction seem to be decreasing significantly. However, this decrease is variable depending on the partnership situations of individuals. For people living in a couple, very different situations (increase or decrease) are observed depending on living conditions, the presence of children or other people in the household.

Key research perspectives

First of all, one of the main limitations stated by one of the surveys most concerned about establishing representative samples of the population, lies in the limits of the

representativity in the constitution of the samples collected and in the definition of the independent explanatory variables. It is entirely possible to conduct non-representative surveys if the limitations and difficulties of generalization are recognized, which is not always the case in many surveys. Under these conditions, it appears difficult to establish statistical causalities beyond the observed superficial correlations. What can explain the current conditions of sexual life, whether it is decreasing in frequency – or even in some cases increasing – and the forms of satisfaction or frustration that it can provide? The criterion of the frequency of sexual activity, which remains an explanatory factor with a high heuristic value, reveals its limits, and the perception of these limits may make it possible to develop new avenues of research. The design of questionnaires, most of which have been developed by teams with little experience, which do not always use instruments already validated in large surveys or which use clinical diagnostic tools, may pose problems of comparison between surveys conducted in different contexts.

Measuring and evaluating change always appears to be very problematic in cross-sectional surveys. Many authors simply ask whether their sex life has changed since the introduction of health measures, which allows a subjective view of these possible changes, and is already a first indicator. NATSAL-COVID surveys based on an analysis and survey protocol and questionnaires already used in routine general population surveys will allow comparisons to be made to observe actual differences in response to simple behavioral indicators such as the frequency of reported sexual activity in different contexts. However, since many of the published surveys have not been part of already validated survey protocols, comparisons may be difficult to make and may not be valid.

Sexuality is now widely regarded as a central dimension of health, and mental health in particular, which implies that barriers and difficulties to the fulfillment of sexual life are seen as a potential health problem that can have negative consequences and are being questioned. This paradigm is in line with the perspective developed from the nineties with the development of the sexually active drugs, which considered the continuation of sexual activity in the elderly and people with chronic diseases as a positive dimension of life (at the subjective, relational and social level) and considered these alterations to be treatable and possibly avoidable. For the first time in the history of surveys since Kinsey, we are asking ourselves about the decreases and restrictions of this activity for which we are looking for the causes. Traditionally, surveys implemented in the epistemic context of AIDS have focused more on excesses, precocity and deviations.

However, this positive conception of sexuality associated with well-being appears to be relegated in some works in progress (NATSAL-COVID in particular). "Romantic and sexual needs", although considered important for the maintenance of mental health, appear to be a new risk factor for COVID-19 contamination. Indeed, the need to meet potential partners outside the "household", whether permanent or occasional, is constructed as "risk-taking" in relation to COVID-19 contamination. This conception is in line with what can be described as pessimistic approaches to

sexuality, which consider sexuality primarily as a risk factor for the occurrence of pathologies and infections.

The practice of masturbation, whether or not associated with the consumption of pornographic messages, appears to be one of the new focal points of sexual life – whether alone or in a couple situation. Whereas in the 1993 NATSAL survey, researchers justified the absence of questions on masturbation by the embarrassment that such questions could cause participants and the lack of interest in this practice in the context of understanding HIV risk practices (Wellings et al., 1994), the latest NATSAL-COVID survey devotes a whole battery of questions to masturbation and the exploration of the contexts in which it takes place (<https://www.natsal.ac.uk/natsal-covid-study>). This practice is explored to varying degrees in other surveys, yet many previously published surveys have failed to explore this practice in detail by maintaining a conception of "sexuality" as a primarily relational practice.

The concept of "virtual sexuality", which appears in much greater detail than previously, is the subject of very precise explorations and measurements, distinguishing between the different technologies used (text messages, messages, photo exchanges, video exchanges, etc.), the practices and content consumed with the known or unknown partners, instituted or not, with whom it takes place. Beyond the simple receptive consumption of explicit content facilitating individual masturbation (Zattoni et al., 2020), we observe the use of interactive technologies allowing contact between people (Bergstrom, 2019) either for the purpose of a face-to-face meeting or for the creation of virtual erotic scenarios based on the interactive participation (paid or unpaid) of each person. Everyone can thus create their own pornography, as recommended in an online advertisement for Pornhub's new branch, LiveHD Webcam. The Facebook network, for its part, has been offering for a few weeks now an anonymous dating messaging system, disconnected from everyone's public pages, where it is possible to get in touch by means of video communication while keeping the possibility of remaining anonymous and disconnecting at the first deviation of the partner. The use of the Grindr network increases dramatically among gay men who are more concerned about the risks of confinement because they are less often in couples than heterosexual people. New sexual activities likely to lead participants to orgasm or at least to satisfaction are thus described and proposed and may constitute the beginnings of a new form of sexual life in terms of practices, techniques, relationship modes (with new forms of fidelity or "cyber infidelity") and ultimately the emergence of a new form of sexual morality (Witt, 2016). The American Psychological Association warns of the risks of "cyber infidelity" and proposes computerized means to track down spouse or even partner infidelities, emphasizing the degree of emotional and moral seriousness of the affairs that take place online. However, as the Kinsey Institute study notes, these new forms of sexual activity are not likely to bring well-being and satisfaction to all those who venture into these new areas. The increase in the consumption of sites facilitating sexual arousal or erotic encounters does not seem to solve the problem of sexual and emotional frustration (Lehmiller et al., 2020). In the perspective of the development of new forms of activity and virtual

sexual relations, the capacities of adaptation and creativity, of renewal of sexual scenarios and scripts will be decisive.

More generally, the current situation evokes an institutional organization of sexuality such as can be found in health, educational, long-stay or even incarceration institutions in the sense of total institutions analyzed by (Goffman, 1968) or even heterotopias (Foucault, 2009). It is the whole of social organization of society that is now managed as an institution by delimiting the inside and outside, by regulating the modes of circulation between the different spaces according to people's status and by facilitating and organizing the circulation of messages between the different spaces. Following the example of these institutions, the situation created by the different types of confinement and circulation regulations is able to facilitate the development of imaginary and virtual sexual life forms in the absence of the usual and occasional partner(s).

Finally, as mentioned at the beginning of this text, the question of human rights and in particular sexual rights is acutely relevant, since alternative sexual orientations and gender identities to the cis-hetero-normative model expose people to greater vulnerability, which is increased in times of crisis by health systems that are ill-prepared to receive influxes of critically ill patients.

The research already published in the urgency of the societal and health response to the developments of the pandemic already gives a first representation of the situation prevailing in the context of COVID-19.

Disclosure of interest

The author declares that he has no competing interest.

References

- Bancroft J. Alfred C. Kinsey and the Politics of Sex Research. *Annu Rev Sex Res* 2004;15:1–39.
- Barrientos J, Guzmán-Gonzalez M, Urzúa A, Ulloa F. Psychosocial impact of COVID-19 pandemic on LGBT people in Chile. *Sexologies* 2021., <http://dx.doi.org/10.1016/j.sexol.2020.12.006> [Article in press. Available from: <http://www.sciencedirect.com/science/article/pii/S1158136020301183>].
- Bergstrom M. *Les nouvelles lois de l'amour. Sexualité, couple et rencontres au temps du numérique*. Paris: Éd. la Découverte; 2019.
- Berlivet L, Löwy I. Hydroxychloroquine controversies: clinical trials, epistemology, and the democratization of science. *Med Anthropol Q* 2020;34(4):525–41, <http://dx.doi.org/10.1111/maq.12622>.
- Bondil P. *La dysfonction érectile*. Paris: John Libbey; 2004.
- Caruso S, Rapisarda AMC, Minona P. Sexual activity and contraceptive use during social distancing and self-isolation in the COVID-19 pandemic. *Eur J Contracept Reprod Health Care* 2020;25(6):445–8, <http://dx.doi.org/10.1080/13625187.2020.1830965>.
- Catania J, Moskowitz JT, Ruiz M, Cleland J. A review of national AIDS-related behavioral surveys. *AIDS* 1996;10(Suppl A):S183–90.
- Döring N. How is the COVID-19 pandemic affecting our sexualities? An overview of the current media narratives and research hypotheses. *Arch Sex Behav* 2020;49:2765–78, <http://dx.doi.org/10.1007/s10508-020-01790-z>.
- Ericksen J, Steffen S. *Kiss and tell. Surveying sex in the twentieth century*. Cambridge: Harvard University Press; 1999.
- Feldman H, Goldstein I, Hatzichristou D, Krane R, McKinlay J. Impotence and its medical and psychosocial correlates: results of the Massachusetts Male Aging Study. *J Urol* 1994;151:54–61.
- Foucault M. *Des espaces autres : les hétérotopias*. Paris: Nouvelles Editions Lignes; 2009 [2009/1966].
- Frank K. Rethinking risk, culture, and intervention in collective sex environments. *Arch Sex Behav* 2019;48(1):3–30.
- Fuchs A, Matonóg A, Pilarska J, Sieradzka P, Szul M, Czuba B, et al. The impact of COVID-19 on female sexual health. *Int J Environ Res Public Health* 2020;17(19):7152 [Available from: <https://www.mdpi.com/1660-4601/17/19/7152>].
- Gagnon J. Sex research and social change. *Arch Sex Behav* 1975;4(2):111–41.
- Galmiche S, Charmet T, Schaeffer L, Paireau J, Grant R, Cheny O, et al. Étude des facteurs sociodémographiques, comportements et pratiques associés à l'infection par le SARS-CoV-2; 2020 [Com-Cor. Press release].
- Giami A. Le questionnaire ACSF : l'influence d'une représentation épidémiologique de la sexualité. *Population* 1993(48):1229–56.
- Giami A, Schiltz M-A. Representations of sexuality and relations between partners. *Sex research in France in the era of AIDS. Annu Rev Sex Res* 1996;7:125–57.
- Goffman E. *Asiles. Essai sur la condition sociale des malades mentaux*. Paris: Ed. de Minuit; 1968.
- Gouvenet B, Bonierbale M. Impact du confinement COVID-19 sur les cognitions et émotions sexuelles. *Sexologies* 2020., <http://dx.doi.org/10.1016/j.sexol.2020.11.004> [Available from: <http://www.jstor.org/stable/3840397>].
- Grafton A. The history of ideas: precept and practice, 1950–2000 and beyond. *J Hist Ideas* 2006;67(1):1–32 [Available from: <http://www.jstor.org/stable/3840397>].
- Hirschfeld M. *The homosexuality of men and women*. New York: Prometheus Books; 2000 [Translated into English by M. Lombardi-Nash. 1914–2000].
- Hussein J. COVID-19: what implications for sexual and reproductive health and rights globally? *Sex Reprod Health Matters* 2020;28(1):1746065, <http://dx.doi.org/10.1080/26410397.2020.1746065>.
- Jacob L, Smith L, Butler L, Barnett Y, Grabovac I, McDermott D, et al. Challenges in the practice of sexual medicine in the time of COVID-19 in the United Kingdom. *J Sex Med* 2020;17(7):1229–36.
- Jaspard M, Equipe Enveff. *Enquête nationale sur les violences envers les femmes en France*. Paris: La documentation française; 2003.
- Landry S, Chartogne M, Landry A. The impacts of COVID-19 lockdown on sexuality. *Sexologies* 2020;29(4):173–80, <http://dx.doi.org/10.1016/j.sexol.2020.08.002> [Retrieved from <Go to ISI>://WOS:000583775800007].
- Lehmiller JJ, Garcia JR, Gesselman AN, Mark KP. Less sex, but more sexual diversity: changes in sexual behavior during the COVID-19 coronavirus pandemic. *Leis Sci* 2020:1–10, <http://dx.doi.org/10.1080/01490400.2020.1774016>.
- Panzeri M, Ferrucci R, Cozza A, Fontanesi L. Changes in sexuality and quality of couple relationship during the COVID-19 lockdown. *Front Psychol* 2020;11(2523)., <http://dx.doi.org/10.3389/fpsyg.2020.565823> [Available from: <https://www.frontiersin.org/article/10.3389/fpsyg.2020.565823>].
- Pascoal PM, Carvalho J, Raposo CF, Almeida J, Beato AF. The impact of COVID-19 on sexual health: a preliminary framework based on a qualitative study with clinical sexologists. *Sex Med* 2020., <http://dx.doi.org/10.1016/j.esxm.2020.100299>.
- Scott-Sheldon LAJ, Mark KP, Balzarini RN, Welling LLM. Call for proposals: special issue of Archives of Sexual Behavior on the Impact of COVID-19 on sexual health and behavior. *Arch Sex Behav* 2020;49(5):1393–4, <http://dx.doi.org/10.1007/s10508-020-01725-8>.

- Simon P, Gondonneau J, Mironer L, Dourlen-Rollier A. *Rapport sur le comportement sexuel des Français*. Paris: Julliard, Charron; 1972.
- Simon W, Gagnon J. *Sexual scripts: permanence and change*. *Arch Sex Behav* 1986;15(2):97–120.
- Tiefer L. *Doing the viagra tango*. *Radic Philos* 1998(92):2–5.
- Torales J, O'Higgins M, Castaldelli-Maia J, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. *Int J Soc Psychiatry* 2020;66(4):317–20, <http://dx.doi.org/10.1177/0020764020915212>.
- Wellings K, Field J, Johnson A, Wadsworth J. *Sexual behavior in Britain. The National Survey of Sexual Attitudes and Lifestyles*. London: Penguin; 1994.
- Witt E. *Future sex. A new kind of free love*. New York: Farrar, Strauss & Giroux; 2016.
- WHO. *Developing sexual health programmes: a framework for action*. Geneva: World Health Organization; 2010.
- Zattoni F, Gul M, Soligo M, Morlacco A, Motterle G, Collavino J, et al. The impact of COVID-19 pandemic on pornography habits: a global analysis of Google Trends. *Int J Impot Res* 2020., <http://dx.doi.org/10.1038/s41443-020-00380-w> [Retrieved from <Go to ISI>://WOS: 000593928900001].