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## Challenges in the Practice of Sexual Medicine in the Time of COVID-19 in China



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### ABSTRACT

**Background:** In March 2020, the World Health Organization declared coronavirus disease 2019 (COVID-19), which is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a pandemic. Currently, data on changes in sexual behavior during the COVID-19 outbreak are limited.

**Aim:** The present study aimed to obtain a preliminary understanding of the changes in people's sexual behavior, as a result of the pandemic, and explore the context in which they manifest.

**Methods:** A convenience sample of 270 men and 189 women who completed an online survey consisting of 12 items plus an additional question were included in the study.

**Outcomes:** The study outcomes were obtained using a study-specific questionnaire to assess the changes in people's sexual behavior.

**Results:** While there was a wide range of individual responses, our results showed that 44% of participants reported a decrease in the number of sexual partners and about 37% of participants reported a decrease in sexual frequency. Multiple regression analysis showed that age, partner relationship, and sexual desire were closely related to sexual frequency. In addition, we found that most individuals with risky sexual experiences had a rapid reduction in risky sexual behavior.

**Clinical Implications:** The current findings contribute to identifying another potential health implication associated with the COVID-19 pandemic and report preliminary evidence of the need to provide potential interventions for the population.

**Strength & Limitations:** This study is the first to perform a preliminary exploration of sexual behavior during the COVID-19 outbreak. The generalizability of the results is limited, given that only a small convenience sample was used.

**Conclusion:** During the height of the COVID-19 outbreak, overall sexual activity, frequency, and risky behaviors declined significantly among young men and women in China. **Li W, Li G, Xin C, et al. Challenges in the Practice of Sexual Medicine in the Time of COVID-19 in China. J Sex Med 2020;17:1225–1228.**

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**Key Words:** COVID-19; Sexual Activities; Sexual Frequency; Risky Sexual Behavior

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### INTRODUCTION

The coronavirus disease (COVID-19) has already been declared a global pandemic, having infected more than 200,000 people in over 100 countries.<sup>1</sup>

From February to early March 2020, most provinces in China closed all workplaces (including schools) that provided nonessential services, and all employees and students worked from home. The government strictly managed the movement and gathering of people, and restrictions on nonessential social activities were strictly enforced. The outbreak of COVID-19 and series of strict control measures adopted by the government had many negative effects on individuals and society. The population

may experience restriction of activities, panic, poor mental health, loss of relatives, life-threatening situations, unemployment, reduced income, and separation from their families or partners.<sup>2</sup> Individuals may also experience unique changes in their sexual behaviors under these unprecedented conditions.<sup>3</sup> However, sexual behaviors during the COVID-19 pandemic have not been examined. This study aimed to assess changes in the sexual behaviors of young women and men during the COVID-19 outbreak.

## METHODS

Between March 13 and 15, 2020, a brief online survey was administered to participants recruited in China. A total of 600 men and 600 women were invited to complete self-management surveys via social media platforms.

Before receiving the questionnaire, the participants were informed that the anonymous survey was about sexual behaviors, contained personal questions, and required approximately 5 minutes to complete. Participants were offered approximately \$2 to complete the survey. This research was approved by the Academic Ethics Committee of Anhui Medical University. All participants approved an electronic informed consent.

Participants completed a 12-item questionnaire that included questions assessing the participants' demographics and present and previous sexual behaviors. The following data were obtained using a self-constructed, study-specific instrument: age, ethnicity, education, profession, current financial situation, sexual orientation, sexually transmitted disease status, self and partner medical and surgical history, partner relationship, living together with parents or not, changes in the number of sexual partners, sexual desire, frequency of sexual behavior, sexual satisfaction, and risky sexual behaviors. Symptoms were assessed for "during the COVID-19 outbreak." Apart from that, an additional question was raised: Do you intend to increase the number of sexual partners or risky sexual behaviors (defined as inconsistent condom use, "casual" sexual partnerships, or multiple sexual partnerships) after the outbreak is over?

A missed answer reminder was added to ensure the integrity of the data, and incomplete questionnaires were not submitted to the system. Of the 1,200 participants who received the survey, 305 (50.8%) men and 248 women (41.3%) completed the entire questionnaire. Participants aged 18–45 years, with a history of sexual activity, who provided informed consent were included in the study. Participants or their partners who were diagnosed with systemic diseases ( $n = 23$ ), mental disorders ( $n = 12$ ), sexually transmitted diseases ( $n = 9$ ), and other serious conditions that led to sexual dysfunction or were taking any drugs that altered sexual function ( $n = 14$ , including alcohol abuse and drug use) were excluded.<sup>4,5</sup> Homosexual or bisexual individuals ( $n = 7$ ) and pregnant and lactating women ( $n = 29$ ) were also excluded from the study.

## RESULTS

Of the 553 participants who completed the survey, 459 (83%) were included in the analyses (270 men and 189 women). All participants were of Han Chinese ethnicity. The characteristics of the study population are presented in Table 1. Most interviewees (72%) lived with their parents. Approximately half of the participants (55%) experienced financial deterioration during the COVID-19 outbreak.

According to the present study, 25% of the participants experienced reduction in sexual desire, while only 18% of men and 8% of women experienced increased sexual desire. The difference between men and women was statistically significant ( $F = 12.09$ ,  $df = 2$ ,  $P = .002$ ), and the difference reported here is attributed to the decrease ( $F = 3.99$ ,  $df = 1$ ,  $P = .046$ ) and increase ( $F = 10.28$ ,  $df = 1$ ,  $P = .001$ ) in the desire (compared to unchanged). The results showed that 44% of participants reported a decrease in the number of sexual partners, with men slightly more likely than women to report a decrease in the number of sexual partners (53% vs 30%). There was good agreement between men and women in terms of sexual frequency, with about 37% of participants reporting decreased sexual frequency. A subanalysis of married individuals showed that all participants had similar characteristics: 49% of married men and 29% of married women reported a decrease in the number of sexual partners, and 36% of married men and 28% of married women reported a decrease in the frequency of sexual activities. Through a multiple regression analysis, we found that age, partner relationship, and sexual desire were closely related to sexual frequency (Table 2). During the COVID-19 outbreak, 32% of men and 39% of women experienced a reduction in sexual satisfaction. The difference between men and women was statistically significant ( $F = 14.49$ ,  $df = 2$ ,  $P = .001$ ). In addition, most participants with a history of risky sexual experiences had a reduction in risky sexual behaviors after the COVID-19 outbreak. In fact, only 5 individuals reported an increase in risky behaviors during this period.

## DISCUSSION

In general, at the height of the COVID-19 epidemic, we found that both sexual activities and sexual satisfaction of young men and women decreased. Low sexual desire and unsatisfying partner relationships were significant factors affecting sexual activities, which is in agreement with previous studies.<sup>6</sup>

In addition, we found that most individuals with a history of risky sexual experiences had a rapid reduction in risky sexual behaviors. This may be because the participants may have experienced a great deal of psychological stress during this particular period, such as anxiety, fear, boredom, and disappointment. In addition, it is undeniable that strict physical restrictions have directly impacted the possibility of having new sexual partners and risky sexual behaviors. However, in the supplementary question, 32% of men and 18% of women indicated that they were inclined to increase the number of sexual partners or risky sexual behaviors

**Table 1.** Demographic characteristics and changes in sexual behaviors of all participants (n = 459)

Items	Total (n = 459)	Male (n = 270)	Female (n = 189)
Age (year)			
15-30	275 (0.60)	157 (0.58)	118 (0.62)
31-45	184 (0.40)	113 (0.42)	71 (0.38)
Marriage status			
Married	243 (0.53)	136 (0.50)	107 (0.57)
Unmarried	216 (0.47)	134 (0.50)	82 (0.43)
Education level			
College or below	216 (0.47)	122 (0.45)	94 (0.50)
Bachelor's degree	195 (0.42)	119 (0.44)	76 (0.40)
Master's degree or above	48 (0.10)	29 (0.11)	19 (0.10)
Current financial situation			
Improve	10 (0.02)	8 (0.03)	2 (0.01)
Unchanged	195 (0.42)	104 (0.39)	91 (0.48)
Deteriorate	254 (0.55)	158 (0.59)	96 (0.51)
Partner relationship			
Fine	188 (0.41)	114 (0.42)	74 (0.39)
General	203 (0.44)	111 (0.41)	92 (0.49)
Terrible	68 (0.15)	45 (0.17)	23 (0.12)
Living with parents			
Yes	331 (0.72)	185 (0.69)	146 (0.77)
No	128 (0.28)	85 (0.31)	43 (0.23)
Number of sexual partners			
Increase	27 (0.06)	13 (0.05)	14 (0.07) <sup>a</sup>
Unchanged	230 (0.50)	112 (0.41)	118 (0.62)
Reduce	202 (0.44)	145 (0.53)	57 (0.30)
Sexual desire			
Increase	64 (0.14)	48 (0.18)	16 (0.08) <sup>b</sup>
Unchanged	281 (0.61)	149 (0.55)	132 (0.70)
Reduce	114 (0.25)	73 (0.27)	41 (0.22)
Sexual frequency			
Increase	92 (0.20)	48 (0.17)	44 (0.23)
Unchanged	199 (0.43)	114 (0.42)	85 (0.45)
Reduce	168 (0.37)	108 (0.40)	60 (0.32)
Sexual satisfaction			
Increase	67 (0.15)	29 (0.11)	38 (0.20) <sup>c</sup>
Unchanged	232 (0.51)	155 (0.57)	77 (0.41)
Reduce	160 (0.35)	86 (0.32)	74 (0.39)
Risky sexual behaviors			
There is not	368 (0.80)	200 (0.74)	168 (0.89)
Increase	5 (0.01)	3 (0.01)	2 (0.01)
Unchanged	16 (0.03)	13 (0.05)	3 (0.02)
Reduce	70 (0.15)	54 (0.20)	16 (0.08)

Note: "a, b, c" mark the statistically significant difference between men and women. For a:  $F = 25.02$ ,  $df = 2$ ,  $P = .001$ ; for b:  $F = 12.09$ ,  $df = 2$ ,  $P = .002$ ; for c:  $F = 14.49$ ,  $df = 2$ ,  $P = .001$ .

once the epidemic ended. A significant minority will be engaged in behaviors that could increase the risk of contracting sexually transmitted diseases.<sup>7</sup>

There are several potential limitations to our research that should be noted. First, race and ethnic culture appear to have a significant association with the occurrence of sexual problems.<sup>8</sup> For example, most young Chinese people live with their parents (72% in the present study), which is different from results

reported in other countries and may be a significant factor that can limit their sexual behaviors. Therefore, the small sample size from a single ethnicity and the lack of randomization are also limitations for the extrapolation of the results to the global general population. Second, the use of unverified questionnaires and retrospective evaluations of sexual behavior were also weaknesses of the study. In addition, we did not collect data from participants who did not complete the questionnaire. Hence, the

**Table 2.** Correlates of sexual frequency among subjects as determined by logistic regression analysis

Variables	Univariate analysis	Multivariate analysis		
	<i>P</i>	OR	<i>P</i>	95% CI
Age (yr)	0.016	0.48	0.041	0.25~0.81
Marriage status	0.483	-	-	-
Education level	0.625	-	-	-
Current financial situation	0.041	1.45	0.198	1.22~1.95
Partner relationship	0.010	2.39	0.034	1.74~2.96
Living with parents	0.028	0.65	0.225	0.24~0.82
Number of sexual partners	0.635	-	-	-
Sexual desire	0.002	2.23	0.008	1.25~3.01
Sexual satisfaction	0.001	1.83	0.055	1.14~2.36
Risky sexual behaviors	0.086	-	-	-

CI = confidence interval; OR = odds ratio.

characteristics of these individuals and their impact on the overall data were not analyzed.

## CONCLUSION

To our knowledge, this may be the first study on sexual behavior during the COVID-19 outbreak. The current results show that overall sexual activity, frequency, and risky behaviors declined significantly among young men and women during this unique time. Therefore, as an aspect of overall health, sexual health suffered impacts during the COVID-19 pandemic and that this represents one potential area to be recognized and addressed by sexual health experts.

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## SUPPLEMENTARY DATA

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