


Intimacy during the COVID-19 pandemic: an online survey examining the impact of COVID-19 on the sexual practices and dating app usage of people living in Hong Kong

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ABSTRACT

Background. Little attention has been paid to understanding the impact of the coronavirus disease 2019 (COVID-19) pandemic on sexual practices and dating app usage among the Chinese population. To fill this gap, we examined the sexual practices and dating app usage of Hong Kong residents during the COVID-19 pandemic. **Method.** An online survey was developed to collect data, and the participants were recruited via online social media. The respondents were asked to report on their sexual practices and dating app usage during the COVID-19 pandemic. **Results.** In total, 249 participants met the inclusion criteria for the analysis. We found that more than 70% of the participants began masturbating more. Almost half of the participants reported decreases in various sexual activities with sexual partners, including vaginal, anal and oral sex. The vast majority of the study participants also reported a decline in sexual activities with casual partners, regular non-romantic partners and sex workers. Meanwhile, dating apps were used more frequently for chatting/texting, swapping photos, sexting and virtual dating. More than 50% of the participants reported less use of dating apps for face-to-face dates and sexual encounters. **Conclusion.** It is evident that the COVID-19 pandemic and its corresponding public health measures impacted the sexual practices and dating app usage of Hong Kong residents.

Keywords: Asia, Chinese, coronavirus, COVID-19, dating apps, mobile apps, online dating, pandemic, sexual behaviours, sexual function, sexual health, sexual practices.

Introduction

The coronavirus disease 2019 (COVID-19) pandemic is an unprecedented global health issue that has led to a massive loss of lives around the world. In addition to the physical and psychological impacts,¹ the COVID-19 pandemic seems to have also influenced people's sexual practices.² The pandemic might have affected people's desire to participate in sex, the types of sexual practices they chose to perform and the extent to which these behaviours were different from the pre-pandemic period. An Australian study reported that compared to before the pandemic, the participants were more likely to have sex with a spouse but less likely to have sex with a girlfriend/boyfriend or via casual hook-ups during the COVID-19 pandemic.³ The study also revealed a change in the pattern of smartphone dating application (app) usage. For example, people used dating apps more often to chat and set up virtual dates during lockdowns³ because of loneliness and boredom.⁴

Since the outbreak of the COVID-19 pandemic, a plethora of empirical studies have examined its impacts on people's physical and psychological health.^{5,6} However, little attention has been paid to its effects on sexual health,² especially among the Chinese population. To fill this knowledge gap, this study examines the sexual practices and dating app usage of Hong Kong residents during the COVID-19 pandemic.

Methods

Study design

We conducted a cross-sectional online survey between September 2020 and August 2021. During recruitment, the fourth wave of the pandemic occurred (between November 2020 and May 2021). The Hong Kong government tightened social distancing restrictions (such as no social gatherings of more than two people and no dine-in services after 1800 hours) to cope with the fourth wave.

Participants and sampling frame

The individuals included in the study were aged 18 years or older and living in Hong Kong at the time of the survey. All genders and sexual orientations were eligible. The participants were recruited by convenience sampling via social media (i.e. Instagram and Facebook). Qualtrics, an online questionnaire platform, was used to collect the data.

Study instruments and analysis

The survey consisted of three parts: (1) demographic information; (2) sexual practices; and (3) dating app usage. The question items were developed by the research team. The participants were asked whether they had changed their sexual practices (such as masturbation, oral sex, rimming, sexual intercourse, chemsex and group sex) since the COVID-19 pandemic (i.e. January 2020). They were also asked whether their reason for using dating apps (such as chatting, sexting, face-to-face dates and face-to-face sex) had changed after the outbreak. The response options included 'not doing this at all because of the pandemic', 'doing this less frequently than before the pandemic', 'doing this the same amount as before the pandemic' and 'doing this more frequently than before the pandemic'. The option 'I never do this' was also available for the participants who had never engaged in the enumerated practices.

Descriptive statistics were used to describe the socio-demographic characteristics of the respondents, their sexual practices and dating app usage. People who chose 'I never do this' were excluded from the denominator of the calculations. All analyses were conducted using the Statistical Package for the Social Sciences (ver. 25).

Ethics

The study protocol was approved by the institutional review board HKU/HA HKW IRB (reference number: UW 20-531). Electronic consent was obtained from each study participant.

Results

In total, 287 people accessed the survey, of whom 31 did not complete the survey and seven did not meet the study inclusion criteria (four people were not living in Hong Kong and three people were younger than 18 years old). As a result, 249 participants were included in the analysis. Among the participants, 87.95% (219/249) had had sexual contacts during their lifetime and 41.77% (104/249) had used dating apps. [Table 1](#) shows the characteristics of the study participants.

When asked whether they had changed their sexual practices because of the COVID-19 pandemic, 71.50% (138/193) of the respondents reported that they had masturbated more, whereas 37.06% (73/197) reported that they had masturbated their partners less. In total, 44.60% (95/213) of the participants reported that they had kissed their partners on the mouth, 37.50% (75/200) had performed oral sex, 37.19% (74/199) had received oral sex, 37.25% (19/51) had performed rimming, and 34.62% (18/52) had received rimming less frequently than they did before the COVID-19 pandemic. In total, 38.68% (82/212) of the participants reported having less frequent sexual intercourse than before the COVID-19 pandemic. A proportion of 38.10% (16/42) and 43.75% (14/32) of the participants had not had group sex and chemsex, respectively, due to the COVID-19 pandemic.

Regarding the types of sexual partners, 46.85% (67/143) reported having sex with regular non-romantic partners (i.e. friends with benefits), 45.07% (64/142) had sex with casual/anonymous partners (i.e. hook-ups or one-night stands) and 39.32% (81/206) had sex with regular partners less frequently than they did before the COVID-19 outbreak; 55.32% (26/47) did not purchase sex from sex workers at all due to the pandemic. [Table 2](#) shows the results regarding sexual practices during the COVID-19 pandemic.

Compared with the pre-pandemic period, dating apps were used more frequently for chatting/texting (69.15%, 65/94), swapping photos (62.50%, 55/88), sexting (57.69%, 45/78), and virtual dating (33.33%, 12/36). However, since the COVID-19 outbreak, 39.08% (34/87) of the participants used dating apps less frequently for face-to-face dates; 28.74% (25/87) did not use dating apps for face-to-face dates at all; 39.74% (31/78) used dating apps less frequently for face-to-face sexual encounters; 25.64% (20/78) did not use dating apps for face-to-face sexual encounters at all; 50.00% (13/26) did not use dating apps for chemsex at all; and 45.45% (15/33) did not use dating apps for group sex at all. [Table 3](#) shows the breakdown of dating app usage during the pandemic.

Table 1. Socio-demographic characteristics of the study participants.

	Overall N = 249	Participants who ever had sexual contact N = 219	Participants who ever used dating apps N = 104
Mean age, years (s.d.)	27.97 (5.98)	28.48 (5.89)	28.01 (5.44)
Ethnicity			
Chinese	246 (98.80%)	217 (99.09%)	102 (98.08%)
I do not want to answer this question	3 (1.20%)	2 (0.91%)	2 (1.92%)
Gender			
Male	165 (66.27%)	147 (67.12%)	77 (74.04%)
Female	81 (32.53%)	71 (32.42%)	25 (24.04%)
Other	2 (0.80%)	1 (0.46%)	2 (1.92%)
I do not want to answer this question	1 (0.40%)	0	0
Sexual orientation			
Heterosexual	194 (77.91%)	167 (76.26%)	58 (55.77%)
Gay	38 (15.26%)	36 (16.44%)	34 (32.69%)
Bisexual	15 (6.02%)	15 (6.85%)	11 (10.58%)
Other	1 (0.40%)	1 (0.46%)	1 (0.96%)
I do not want to answer this question	1 (0.40%)	0	0
Relationship status			
Single	79 (31.73%)	56 (25.57%)	32 (30.77%)
In an intimate relationship	81 (32.53%)	78 (35.62%)	25 (24.04%)
Casually dating	31 (12.45%)	29 (13.24%)	21 (20.19%)
Open relationship	17 (6.83%)	17 (7.76%)	16 (15.38%)
Living apart together/long-distance relationship	6 (2.41%)	6 (2.74%)	1 (0.96%)
Married/engaged/co-habiting	33 (13.25%)	31 (14.16%)	8 (7.69%)
Other	2 (0.80%)	2 (0.91%)	1 (0.96%)
Education level			
Below bachelor degree	57 (22.89%)	41 (18.72%)	16 (15.38%)
Bachelor degree or above	191 (76.71%)	177 (80.82%)	88 (84.62%)
Other	1 (0.40%)	1 (0.46%)	0
How often did you wear a face mask when you left home in the last month?			
Always (100% of the time)	231 (92.77%)	203 (92.69%)	99 (95.19%)
Usually (more than 50% of the time)	16 (6.43%)	15 (6.85%)	5 (4.81%)
Sometimes (less than 50% of the time)	1 (0.40%)	0	0
Never (0% of the time)	1 (0.40%)	1 (0.46%)	0
I am afraid of catching COVID-19			
Agree	223 (89.56%)	197 (89.95%)	91 (87.50%)
Neutral	17 (6.83%)	14 (6.39%)	8 (7.69%)
Disagree	9 (3.61%)	8 (3.65%)	5 (4.81%)
I am afraid that my loved one will catch COVID-19			
Agree	240 (96.39%)	211 (96.35%)	103 (99.04%)
Neutral	5 (2.01%)	4 (1.83%)	0
Disagree	4 (1.61%)	4 (1.83%)	1 (0.96%)

Table 2. Sexual practice during the COVID-19 pandemic ($n = 219$).

	Not doing this at all because of the pandemic n (%)	Doing this less frequently than before the pandemic n (%)	Doing this the same amount as before the pandemic n (%)	Doing this more frequently than before the pandemic n (%)
Masturbating yourself alone ($n = 193$)	2 (1.04)	4 (2.07)	49 (25.39)	138 (71.50)
Masturbating your partner(s) ($n = 197$)	16 (8.12)	73 (37.06)	56 (28.43)	52 (26.40)
Kissing partners on the mouth ($n = 213$)	18 (8.45)	95 (44.60)	49 (23.00)	51 (23.94)
Performing oral sex (your mouth touches your partner's genitals) ($n = 200$)	18 (9.00)	75 (37.50)	53 (26.50)	54 (27.00)
Receiving oral sex (your partner's mouth touches your genitals) ($n = 199$)	17 (8.54)	74 (37.19)	57 (28.64)	51 (25.63)
Performing rimming (your mouth touches your partner's anus) ($n = 51$)	6 (11.76)	19 (37.25)	16 (31.37)	10 (19.61)
Receiving rimming (your partner's mouth touches your anus) ($n = 52$)	6 (11.54)	18 (34.62)	16 (30.77)	12 (23.08)
Sexual intercourse (vaginal or anal sex) ($n = 212$)	19 (8.96)	82 (38.68)	50 (23.58)	61 (28.77)
Sex with casual/anonymouse partners (i.e. hook-ups or one-night stands) ($n = 142$)	49 (34.51)	64 (45.07)	10 (7.04)	19 (13.38)
Sex with regular partners (i.e. lovers) ($n = 206$)	22 (10.68)	81 (39.32)	48 (23.30)	55 (26.70)
Sex with regular non-romantic partners (i.e. friends with benefits) ($n = 143$)	45 (31.47)	67 (46.85)	12 (8.39)	19 (13.29)
Having face-to-face group sex (sex with two or more people at the same time) ($n = 42$)	16 (38.10)	10 (23.81)	8 (19.05)	8 (19.05)
Face-to-face chemsex (recreational drug use before/during sex) ($n = 32$)	14 (43.75)	8 (25.00)	5 (15.63)	5 (15.63)
Use condoms for sex ($n = 207$)	5 (2.42)	8 (3.86)	185 (89.37)	9 (4.35)
Use dental dams for oral sex/rimming ($n = 27$)	7 (25.93)	1 (3.70)	15 (55.56)	4 (14.81)
Purchasing sex from sex workers ($n = 47$)	26 (55.32)	13 (27.66)	6 (12.77)	2 (4.26)
Having sex in public spaces (e.g. parks, public toilets) ($n = 38$)	17 (44.74)	8 (21.05)	6 (15.79)	7 (18.42)

People who chose 'I never do this' were excluded from the denominator of the calculations.

Discussion

Findings from our study suggest that people changed their sexual practices and the purpose of using dating apps during the COVID-19 pandemic. Similar to findings from Australia,³ we discovered an increase in masturbation. One probable explanation was that people spent more time at home, with reduced opportunities to meet partners due to the COVID-19 pandemic, and thus had more time and opportunities to masturbate. Correspondingly, a recent study using daily relative search volume data from Google Trends also reported an increase in pornography consumption during the pandemic.⁷ As expected, almost 50% of the study participants reported decreases in sexual activities involving sexual partners, including vaginal, anal and oral sex. The vast majority of the study participants also had fewer sexual activities with casual partners, regular non-romantic partners and sex

workers. These patterns were consistent with those found in the United States, where casual sex, hook-ups and the number of sexual partners decreased the most.⁸ According to a study in Australia, most men (93.4%) stated that engaging in casual sex during the COVID-19 pandemic was 'too risky'.⁹

In terms of dating app usage, more than half of the study participants used dating apps more frequently for chatting, swapping photos and sexting. Most people did not use dating apps for face-to-face dates or sex, even though a local study conducted before the COVID-19 pandemic found that using dating apps was associated with having a casual sex partner in their last sexual intercourse, with an adjusted odds ratio of 3.21.¹⁰ During the pandemic, people might have felt lonely and isolated due to different social distancing restrictions, such as working from home and the closure of restaurants and bars.¹¹ As a result, dating apps

Table 3. Dating app usage during the COVID-19 pandemic ($n = 104$).

	Not doing this at all because of the pandemic n (%)	Doing this less frequently than before the pandemic n (%)	Doing this the same amount as before the pandemic n (%)	Doing this more frequently than before the pandemic n (%)
For chatting/texting only (not involving any sexual content) ($n = 94$)	2 (2.13)	4 (4.26)	23 (24.47)	65 (69.15)
For sexting ($n = 78$)	3 (3.85)	4 (5.13)	26 (33.33)	45 (57.69)
To swap photo or video (not involving any sexual content) ($n = 88$)	3 (3.41)	2 (2.27)	28 (31.82)	55 (62.50)
For face-to-face dates ($n = 87$)	25 (28.74)	34 (39.08)	13 (14.94)	15 (17.24)
For virtual dates ($n = 36$)	6 (16.67)	3 (8.33)	15 (41.67)	12 (33.33)
For face-to-face sex ($n = 78$)	20 (25.64)	31 (39.74)	13 (16.67)	14 (17.95)
For face-to-face chemsex (recreational drug use before/during sex) ($n = 26$)	13 (50.00)	7 (26.92)	2 (7.69)	4 (15.38)
For face-to-face group sex (sex with two or more people at the same time) ($n = 33$)	15 (45.45)	8 (24.24)	3 (9.09)	7 (21.21)

People who chose 'I never do this' were excluded from the denominator of the calculations.

have become an important platform for them to socialise and meet new friends.¹²

The present study has a number of research and clinical implications. First, qualitative studies are needed to understand how COVID-19 and infection control measures have affected the sexual practices, experiences and dating app usage of people. Second, e-health interventions to promote sexual well-being during the pandemic should have been implemented.^{13,14}

Some limitations of our study should also be noted. First, the participants were recruited on the internet by convenience sampling and the number of study participants was small. Therefore, the study findings might not be generalisable to the general population and populations with limited internet access. Second, female respondents were under-represented in the study sample, which might have biased the study findings. Gender differences in sexual behaviour and motivation for using dating apps have been well documented.^{15,16} For example, males are more likely to have a higher number of sexual partners and to engage in casual sex than females.¹⁵ Third, the study recruitment period lasted for almost 1 year. During this period, the severity of the pandemic fluctuated in Hong Kong, with the implementation of different social distancing measures changing accordingly. It is possible that the changes in the severity of the pandemic and social distancing measures influenced the sexual practices and dating app usage of the study participants. However, given the limitations of the study methodology, we were not able to examine how the changing restrictions and waves of the pandemic influenced the sexual practices and dating app usage of Hong Kong residents.

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Data availability. The data that support this study cannot be publicly shared due to ethical or privacy reasons and may be shared upon reasonable request to the corresponding author if appropriate.

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