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Change in Sexual Behaviour Among Men Who have Sex with Men During the COVID-19 Pandemic in the Czechia

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Abstract

Introduction: The study sought to identify changes in sexual activity during the COVID-19 pandemic among men who have sex with men.

Methods: The descriptive cross-sectional study used a questionnaire survey distributed on social networks using the snowball method in the Czech Republic. Statistical procedures were performed in SPSS and MS Excel. After descriptive statistics, association analysis was performed using the Pearson x2 test. Cramer's V and the Contingency Coefficient were used to verify the strength of the association. Pearson's adjusted standardized residuals were analyzed to interpret the associations.

Results: A total of 701 MSM met the inclusion criteria. The median age was 25-29 years. The majority of respondents (77.6%) identified themselves as homosexual. Most respondents (74.5%) did not take steps to reduce the risk of infection with COVID-19. Most respondents (55.7%) stated that their sexual activity had not changed compared to the time before the pandemic, with some partial exceptions (e.g. sexting). A moderately strong association was identified between alteration of overall sexual activity and age at sexual initiation, number of sexual partners/year and sexual activity/week.

Conclusion: The subpopulation of MSM in the Czech Republic did not reflect significant changes in sexual behaviour during the pandemic of COVID-19 compared to before.

Polocy implications: The research findings suggest there is no need to implement widespread changes in the approach to MSM sexual behaviour. Current societal settings and systems of support for sexual behaviour appear robust even in critical times.

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Introduction

The first recorded cases of the new COVID-19 disease came from China in December 2019 [1]. Due to its rapid spread worldwide the WHO declared the COVID-19 pandemic on 11 March 2020 [2]. The first case appeared in the Czechia on 1 March 2020 [3]. This disease has been the most significant burden and test of global health in the last 100 years [4]. The rapid spread of the disease across the globe has led to travel restrictions, curfews, elimination of social contact, closure of institutions that are not necessary, and cancellation of cultural, sporting, and religious events in many countries worldwide [5].

The mode of sexual transmission has also been investigated with the risk of transmission. In addition to the risk of transmission associated with close contact during sexual activity, the risk of transmission through semen or vaginal secretions was also investigated [6,7]. Some have suggested the presence of the virus causing COVID-19 in semen or vaginal secretions [8,9]. According to other authors, this evidence is not yet available [10]. Studies have also reported the risk of transmission of SARS-CoV-2 via the oral-faecal route, particularly in men who have sex with men (MSM) [11].

Sexual activity, and sexual satisfaction in particular, is an essential part of an individual's health, and disruption of the possibility of this satisfaction can lead to irreversible changes. Considering that sexual expression is one aspect of human health [12], which can contribute not only to sexual but also to emotional health and well-being [13], denying it is undeniably a potent interference with an individual's health and personal freedom. However, this relationship is reciprocal, as some studies have shown that increases in psychological disorders and higher incidences of mental illnesses significantly affect sexual health [14].

The effects of the implemented restrictions to reduce the spread of COVID-19 have been very mixed, as evidenced by the different, often ambivalent results of some studies, with some pointing to an increase in sexual activity and others refuting this. Immediately in the early phases of the COVID-19 pandemic, we encountered ideas regarding a baby boom based on couples spending more time together [15]. The time couples suddenly had together may have increased their sexual aktivity [6] and their eventual rediscovery of intimate life. However, this time may also have been devoted to exploring new sexual activities and fantasies, including hypersexuality and deviant moods [16]. The effects of the restrictions may also have caused psychological frustrations for more susceptible groups, such as homosexually oriented individuals who had to return home and hide their sexuality [15]. The risk of STIs has increased, whether due to lack of condom availability, PrEP, or inadequate medical care [17]. However, social distance and restriction of contact, including fear of disease, may have also reduced risk behaviours [18], particularly sex with strangers [19].

As part of the restrictions, many people also resorted to the often-recommended form of online sex, sometimes increasing attendance up to threefold [20]. Porn sites experienced a similar boom, reporting an increase in pornography viewing of up to 24% in the first few months [21,22], thereby increasing masturbation and reducing tension and psychological frustration.

This research aimed to determine whether there were changes in sexual activity and selected aspects of sexual behaviour among men who have sex with men during the COVID-19 pandemic in the Czechia compared to the previous period. To achievement the research, questions were defined.

Methodology

The descriptive cross-sectional study was implemented as a questionnaire survey for MSM and thus represents the first study of its type in the Czechia for this subpopulation. The study took place from October 2021 to March 2022. After its construction, the questionnaire was discussed with experts in the field of sexual behaviour among MSM. Before the launch, the questionnaire was pre-tested on a group of MSM. Respondents in the questionnaire agreed to their anonymous participation in the study and that participation does not give rise to any right to compensation.

The questionnaire was distributed electronically through Google.forms through social networks (Facebook, Instagram). To get more respondents, the snowball method was used, so participants could distribute the questionnaire themselves on their social networks.

Inclusion criteria for participation in the study were residence in the Czechia, male gender and the presence of sexual experience with a man. All these inclusion criteria were verified based on the responses of the respondents. Consent to participate in the study was a partial inclusion criterion.

Most variables had a nominal or ordinal character. Given the defined goal of the study, we focused mainly on questions regarding the alteration of various types of sexual activity. We were also interested in the vaccination against COVID-19 and behaviours leading to a reduced risk of infection with COVID-19.

First, descriptive statistics were performed to create an idea of the frequency and representation of individual responses. The statistical analysis was conducted in the SPSS environment; then, the data was processed in the MS Excel program.

We analyzed the associations between the investigated variables using the chi-square test, specifically Pearson's x2 test. In many cases, to use it, it was necessary to aggregate some minority groups of answers (so that this reduction was logical). In some cases (where the table was not sufficiently filled for the need of the test), "I do not know" and "I do not want to answer" answers were discarded if they did not represent a significant answer to the question. Null and alternative hypotheses were defined here for each variable. To verify the rejection or acceptance of H0, a statistically significant level of α=0.05 was used.

To verify the strength of this relationship (if it was statistically significant), we used Cramer's V and, to complement it, the Contingency Coefficient. The character of verified and statistically significant relationships was determined based on Pearson's adjusted standardized residuals. When analyzing the residuals, we worked with the value |1.96|.

Pearson's x2 included all the alterations above. From these, the variable "Total Alteration" was created, representing the mode of answers to the questions regarding the alteration, thus representing a good idea of the change in overall sexual behaviour. We consider this variable, "Total alteration", the most fundamental for this study.

Results

A total of 717 respondents filled out the questionnaire, while 16 did not agree to participate, so the total number of respondents entering the study was 701. The median age was 25-29 years.

Table 1

In Table No. 1, we can also observe the sexual orientation and sexual identification of the respondents. Sexually, 86.7% are more attracted to men, while 77.6% of respondents identified themselves as homosexual. According to partner/family relationship, 42.7% were in a partnership with two men, 38.7% said "alone", and 4.3% were married to a woman. In terms of HIV infection, 68.2% of respondents said they were negative. Table No. 1 provides more detailed information.

Table 1: Personal-demographic characteristics of respondents.

Variable	Value	Number (N)	Share (%)
Education			
	Incomplete basic	34	4,9
	Complete basic	58	8,3
	Secondary school without matriculation	125	17,8
	Secondary seducation with a high school diploma	230	32,8
	Higher professional	22	3,1
	University	232	**33,1**
		701	100
Sexual orientation			
	Rather men	608	**86,7**
	Undefined	34	4,9
	Rather women	59	8,4
		701	100,0
Sexual identification			
	Homosexual	544	**77,6**
	Bisexual	102	14,6
	Trans gay man	6	,9
	Heterosexual	38	5,4
	I don't want to answer	4	,6
	I don't know	7	1,0
		701	100,0
COIVD-19			
	Yes	313	**44,7**
	No	168	24,0
	I don't know	137	19,5
	Maybe, but it hasn't been confirmed	83	11,8
		701	100,0
HIV			
	Negative	478	**68,2**
	Positive	39	5,6
	I don't know	170	24,3
	I don't want to answer	14	2,0
		701	100,0

Note: Highlighted values represent the highest representation within the variable of interest.

Table 2: Impact of the COVID-19 pandemic on the lives of respondents.

Variable	Value	Number (N)	Share (%)
Personal Involvement			
	Pandemic barely touched me	280	39,9
	Pandemic has slightly affected health	299	**42,7**
	Qutie affected health	95	13,6
	Strongly influenced	27	3,9
		701	100,0
Psychic involvement			
	No changes	193	27,5
	Slight influence	167	23,8
	Partial infulence	274	**39,1**
	Disaster	67	9,6
		701	100,0
Change in partner status			
	New partner	116	16,5
	The loss of the original	89	12,7
	Significant complication	87	12,4
	Significant improvement	77	11,0
	No change	322	**45,9**
	I don't want to answer	10	1,4
		701	100,0
Reducing the risk of COVID-19 infection during sexual activity			
	Mouthpieces	83	11,8
	Positions	6	0,9
	Desinfection	27	3,9
	Video sex	4	0,6
	No	523	**74,5**
	I don't know	20	2,9
	I'm not sexually active	38	5,4
		701	100

Table 2

In Table No. 2, we can note the personal association with pandemic. The table shows that almost half of the respondents (45.9%) stated that their partnership status did not change during the pandemic. Last but not least, we can note that almost ¾ of all respondents did not take steps to reduce the risk of infection with COVID-19 during sexual activity; however, if they did take these steps, it was most often the use of mouthpieces (11.8%).

Table 3

In Table No. 3, we can note the average age of sexual initiation (15.56 years), the most frequent answers to the sums of sexual partners by gender (women=0; 44.1% and men=10-14; 17%). Respondents reported that their average sexual activity (with a partner) is 1-2/month, while the desire for sexual activity is significantly higher (3-4/week). The table provides additional characteristics.

Table 3: Selected aspects of respondents' sexual activity.

Variable	Modus	Modal category share (%)	Median	Average
Sexual initiation	13; 15	16,2	15	15,62
Sum of SP women	0	44,1	1-4	
Sum of SP men	10-14	17,0	20-24	
SA/week	1-2/week	28,7	1-2/week	
Masturbation	3-4/week	22,4	5-6/week	
Desire for SA/month	3-4/week	23,7	2x/week	
Lasting without sex	A few month	25,2	A few week	
Number of SP/year	1	23,5	3	

Table 4

In most questions regarding the alteration of sexual activity, the respondents stated that there was no change (15 out of 21 questions), which is also confirmed by "Total change in sexual activity", when 55.7% of respondents stated that there was no change. The situation regarding the individual questions is presented in table no. 4, where we notice that most answers, 66.5%, stated no change in oral sex. Conversely, the least convincing result can be seen in the use of dating apps (39.7% no change vs. 39.5% increase). In the area of the most frequent answer, "I do not practice", questions about vaginal sex, visiting sex clubs and sex saunas, using PrEP and practising Chemsex. The increase occurred only in the case of sexting (48.5%). However, we can also report high values of increase for other questions (watching pornography – 41.7%, frequency of masturbation – 35.7%); on the other hand, we observe the highest values of decrease for visiting gay clubs – 22.7%, visiting sex. Clubs and sex. Saunas – 20.4% and sexual activities with a permanent partner (20.1%).

Table 4: Alteration of sexual activity (comparison before and during the COVID-19 pandemic).

Variable	No change (%)	Increase (%)	Decrease (%)	Other (%)	Not practicing (%)	I don't know what it is (%)
Watching pornography	50,6	41,7	4,1	3,6		
Number of sexual partners	62,6	21,1	14,4	1,9		
Number of casual sexual partners	53,1	23,0	16,0	8,0		
SA permanent partners	57,3	15,7	20,1	6,8		
Using a condom	62,9	6,7	11,1	19,3		
Frequency of masturbation	56,5	35,7	4,0	3,9		
Frequency of oral sex	66,5	23,8	8,6	1,1		
Frequency of anal sex insertive	64,9	16,8	12,6	5,7		
Frequency of anal sex receptive	61,6	22,3	7,8	8,3		
Frequency of use of dating apps	39,7	39,5	4,1	16,7		
Sexual activity	54,9	33,8	9,6	1,7		
Sexual satisfaction	64,2	26,5	4,3	5,0		
Frequency of use sexual toys	42,8	35,8	4,0	17,4		
Frequency of vaginal sex	43,2	3,6	5,7	1,7	45,8	
Engaging in online sex	35,4	25,2	3,4	0,5	35,4	
Visiting sex clubs and saunas	35,0	3,6	20,4	2,7	38,4	
Group sex	40,7	10,0	12,4	2,1	34,8	
Going to gay clubs	37,4	5,0	22,7	2,2	32,8	
Sexting	32,8	48,5	6,0	12,7		
Using PrEP	35,8	4,6	8,6	1,8	41,9	7,4
Practicing Chemsex	35,4	6,8	7,6	1,2	47,6	1,4
Total change	**55,7**	24,3	6,0	14,0		

Note: Highlighted values represent the highest representation within the variable of interest.

Table 5

The values of Pearson's chi-square are presented in Table No. 5. Failure to meet one of the two conditions for the implementation of chi-square may be related to inappropriate aggregation or improperly set scaling of responses, when in some questions, there were high values within one response, due to which the other responses could not be filled. From the table, we can notice that for some variables (sexual initiation, number of SP/year and SA/week), we can observe a moderately strong association according to both used coefficients (Cramer's V and contingency coefficient). These values indicate a dependent relationship between the overall change in sexual activity and especially the age of sexual initiation, the number of sexual partners/year and sexual aktivity/week. Furthermore, this fact can also be seen with other variables.

Table 5: Results of categorical data analysis (Pearson chi-square test) for alterations in overall sexual activity during the COVID-19 pandemic in MSM in the Czech Republic.

Variable	Alterations	Pearson Chi-Square			Cramer's V	Coeficient of contingecy
		Value	df	Significance		
Nationality	Celkem	13,981	3	,003	,141	,140
Residence	Celkem	7,822	3	,050	,106	,105
Employment	Celkem	59,085	6	,000	,205	,279
Marital status	Celkem	84,712	12	,000	,201	,328
COVID-19	Celkem	96,623	9	,000	,214	,348
Vaccinations	Celkem	36,512	3	,000	,228	,223
Personal involvement	Celkem	28,162	9	,001	,116	,197
Psychic involvement	Celkem	20,959	9	,013	,100	,170
Sexual initiation	Celkem	210,172	15	,000	,318	,482
Sum SP women	Celkem	125,411	9	,000	,244	,390
Desire SA/month	Celkem	129,797	9	,000	,248	,395
Lasting without sex	Celkem	92,674	9	,000	,210	,342
Number SP/year	Celkem	180,134	9	,000	,293	,452
Change of parnter's status	Celkem	87,236	12	,000	,205	,335
SA/week	Celkem	129,3	6	,000	,307	,398
Masturbation/week	Celkem	85,696	6	,000	,248	,331

Note: Values in italics are statistically significant. Values in bold represent variables with at least moderate dependence according to the selected coefficients. SP - sexual partners, SA - sexual activity

We identified in the area of the total number of women that the more women the respondent had, the more he tended to increase sexual activity during the pandemic. Furthermore, from the point of view of sexual desire, we can say that the lower the desire for sexual activity before the pandemic, the more the respondents decreased their sexual activity during the pandemic. Furthermore, if the respondent reported a higher rate of masturbation before the pandemic, they were more inclined to increase sexual activity during the pandemic.

From the analysis, we can conclude that most MSM in the Czechia did not experience significant changes in their sex life during the COVID-19 pandemic. However, if these changes occurred, they mostly followed pre-pandemic levels of sexual activity.

Discussion

A cross-sectional study was implemented among MSM, of whom a total of 701 with a median age of 25-29 years were included in the study, which corresponds to some similarly large studies N=728 MSM with an average age of 32.7 years [6], or 1090 MSM with an average age of 32.8 years [23]. On the other hand, many studies work with ghosts when the average age was 39.9 years [18]; other studies are identically 37 years [24,25]. In contrast, other studies work with significantly older MSM populations (40,53 and 47 years) [26,27]. Deviations in the average age may be caused by the distribution of the questionnaire via social networks, which are more accessible to younger populations, which is also supported by the snowball method used here.

In terms of sexual orientation and sexual identification, our study found that 86.7% of respondents are more attracted

to men, and 77.6% of respondents identified as homosexual, which corresponds to the results where 76.9% of respondents identified as homosexual [25]. 38.7% of respondents in our study were in a partner relationship, similar to a study reporting 40% [6], which is significantly less than research where more than half of respondents were in a partner relationship [18].

However, we can observe significant differences between the respondents in their HIV status; in our study, only 5.6% stated their HIV positivity; in other studies, the values are significantly higher, e.g. 11.6 [28], or even 24.3% [26]. An exciting fact brings a study that showed a significant difference between engaging in sex with a person diagnosed with COVID-19 (only 3.2%) versus with a diagnosis of HIV (30.1%) [25]. Our study did not identify significant changes in sexual activity; the majority of respondents, 55.7%, stated that there was no change. This fact is not by the results of other studies on the same subpopulation (MSM), which mainly identified a decrease in sexual activity in Australia [18], and in the USA [23]. On the contrary, studies from Germany [14] or Latin America identified increased sexual aktivity [6]. These differences may arise due to different countries affected by the disease COVID-19, but also differences in the presentation of this pandemic by the media and state institutions. From our study, 62.6% reported no change in the number of sexual partners. This result is higher than the result from the USA, where 48% of MSM stated that there was no change in the number of sexual partners [28]. In contrast, a decrease in the average number of sexual partners was reported in several studies (up to a twelvefold decrease [18], or a decrease of 2.72 partners [24]. In contrast, studies are reporting an increase in sexual partners [10]. A change in the number of sexual partners may correspond to the perception of risk, e.g. in countries where higher social isolation, including substituting masturbation or online sex for sexual activity, could have led to a more drastic reduction in the number of sexual partners. However, we cannot reflect this fact too much in Czechia, where programs dedicated to the issue of sex did not exist during the COVID-19 pandemic, which may explain the fact that the majority of respondents did not change the number of sexual partners, which may also be associated with the fact that there was not such a drastic increase in watching pornography as in other studies that did not focus only on MSM [12,29,30], or operating online sex as in other studies [6,9,25]. A lower increase in viewing pornographic materials may be associated with absences in changes in the frequency of masturbation. It is precisely masturbation that can be a suitable compensation in the case of a reduction in the number of sexual partners, but it can lead to a reduction of interest in actual physical, sexual aktivity [14]. In connection with sexual activity with a permanent partner, where 1/5 of respondents reported a decrease, we can report an increase in sexting, reported by almost half of all respondents. It was sexting that could be a suitable way out between sexual partners in the case of physical distance that arose due to government regulations.

The fact that MSM who initiated before 15 years of age have a higher tendency to increase sexual activity during the pandemic may be based on the potentially lower knowledge in the field of sexual reproductive health that is associated with the age of sexual initiation. These men (who initiated early) may thus exhibit riskier sexual behaviour, which was further exacerbated by the problematic psychosocial situation and may have led to increased sexual activity during the pandemic. However, suppose MSM showed a higher average number of sexual partners. In that case, they may reflect the risk of endangering their health differently from persons who report lower numbers of sexual partners or are excited to expose them to this risk, which would also explain the increase in their sexual activity during the pandemic. The relationship between the frequency of sexual activity per week and the increase in sexual activity within the pandemic may be associated with social isolation, which frustrated these persons more and thus led them to change (increase) their sexual activity. Alternatively, this association could also be explained by the fact of being close to only one's partner in a psychologically burdensome you, and a change (increase) in one's sexual activity appeared as the only way out "valve", but, according to the results, somewhat away from one's permanent sexual partner.

The conducted study was carried out via the Internet (social networks). Therefore the validity of its results is limited, not only from the point of view of the sample selection method but also from the fact that a thorough data cleaning and analysis of duplicates took place, but it cannot be ruled out that some respondents filled out the questionnaire more than once. From the point of view of the shortcomings of cross-sectional studies, the interpretation of relationships is a limitation, especially in the case of the interpretation of the causality of these relationships. Despite the limitations above, the study fulfilled the defined goal and identified that, in most cases, there was no change in sexual activity during the COVID-19 pandemic compared to previous times.

Conclusion

Sexual health and sexual satisfaction are one of the main components of each individual's social and psychological well-being, which can determine the quality of his life. Our study shows that in the subpopulation of MSM, there were no significant changes in overall sexual activity, as well as in most of its components, except sexting, which increased in most respondents. The research identified an association between changes in sexual activity mainly in three variables – age at sexual initiation, average number of sexual partners per year and sexual activity per week.

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