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The Impact of the COVID-19 Quarantine on Sexual Life in Italy

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OBJECTIVE	The aim of the study is to evaluate how individual and couple's sexuality had changed during the COVID-19 pandemic-related quarantine.
METHODS	A quantitative correlational research study was conducted, using a web-based survey.
RESULTS	About 1576 participants were involved: 1018 women (64.6%) and 558 men (35.4%). A significant decline in the mean well-being scores during the quarantine, compared to before, was reported. A positive correlation between the well-being scores and the number of sexual intercourse (SI) before and during the quarantine was found. The mean number of SI decreased significantly during the quarantine. The main reasons were: poor privacy (43.2%) and lack of psychological stimuli (40.9%). About 1124 respondents (71.3%) did not report sexual desire (SD) reduction. A positive association between SD and SI during the quarantine was found. About 61.2% did not report autoerotism reduction. In those who reported decreased masturbation activity, the main causes were poor privacy (46.4%) and lack of desire (34.7%). We found that men presented lower SD during the quarantine, than women ($P < 0.01$).
CONCLUSION	Potentially, the more time available might lead couples to reconnect at an intimate level and to improve their sexuality. However, the majority of quarantined participants experienced reduced number of SI per week, with poor household privacy and lack of psychological stimuli as cited causes, even as a majority did not report reduced autoeroticism. UROLOGY 147: 37–42, 2021. © 2020 Elsevier Inc.

At the end of 2019, a new Coronavirus infection disease, named COVID-19, emerged in China. By March 2020, COVID-19 started spreading rapidly throughout the globe and was declared a global pandemic by the World Health Organization.¹ The rapid increase in viral dissemination has progressively disrupted the involved countries and resulted in worrying mortality rates. Among Chinese patients, 3300 deaths occurred, which equals to a mortality rate of 3%-6%.² To date, Italy reports over 120,000 infected people, with almost 16,000 deaths. To face this war-like condition, the Italian government has forced the population to be quarantined at home. Work activities have also been modified by significant changes. The only working sectors that were spared from the mandatory closing were the ones defined as

necessary for survival, whereas smart-working from home was implemented for all the office jobs. Therefore, for the first time in the modern history, Italians have been confined in their houses. During the quarantine, the daily lives of families have been revolutionized. In particular, couples had to spend much more time together, sharing the whole day. Moreover, families with children had the chance to experience a whole new time and space sharing era. All the school lessons, from kindergarten to university, have been replaced with e-learning, meaning that homes have suddenly been repopulated by the presence of children.

In this context, couples' sexual lives could have been significantly altered. Fears of the COVID-19 pandemic implications affecting their lives, or the lives of friends and relatives might produce feelings of anxiety and panic. Sometimes, these feelings can degenerate into further negative psychological reactions, including adjustment disorder and depression.^{3,4}

These possible mood changes may be directly linked to a decrease in couple's sexual interest.^{5–7} As shown by previous studies, patients with anxiety disorders have higher rates of sexual dysfunction than controls. Likewise, the loss of sexual interest is proved to be related to generalized anxiety disorder.^{7,8}

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The Italian COVID-19-related lockdown is also causing a considerable economic collapse.⁹ Self-employed workers in most sectors had to quit their activities resulting in a complete loss of their profits, while most employees were forced to remain at home and be paid through income support measures, with an up to 30% reduction of their regular salaries. On these bases, concerns for economic repercussions have been shown to be powerful inhibitors of sexual desire.^{10,11}

However, overwhelming situations can also lead to unexpected behaviors.^{12,13} As a result, men and women who feel depressed can experience increased sexual interest and sexual response. Moreover, anxiety can facilitate sexual arousal in sexually active individuals.⁷ Besides, the possibility of sharing a greater amount of time with a partner, without the stress of the everyday life, could improve the quality of intimacy inside the couples.

In this study, we aimed to evaluate how individual and couple's sexuality had changed during the COVID-19 pandemic-related quarantine.

MATERIALS AND METHODS

Study Cohort

Data from a sample of young participants in Italy were collected using a quantitative correlational research. Criteria for inclusion were: male and female older than 18 years old, heterosexual or homosexual orientation. We excluded from the survey all the COVID-19 positive people. All the participants gave their consent to the use of their data prior to beginning the survey.

Survey Design

The study has involved the creation of a web-based survey including 15-items in total, designed in Italian version, in accordance to the Checklist for Reporting Results of Internet E-Surveys.¹⁴ All the potential participants were fully informed about the study, extent of privacy, anonymity and confidentiality, possible risks and benefits, the voluntary nature of involvement, and the lack of incentives for participation, as well as negative consequences in case of refuse. A disclosure was fixed on the first sheet of the online survey, in which participants were required to check a box to indicate consent before accessing the survey. The ethical issues associated with the online survey complied with the American Educational Research Association's guidelines.¹⁵ The survey items were pretested on a smaller sample and modified accordingly. The questionnaire was developed through the use of Google Forms and distributed on chats employing free communicating apps (WhatsApp) and social platforms (Instagram and Facebook), 4 weeks after the start of the quarantine (by April 2020). The survey was spread through colleagues, acquaintances, and personal contacts with an indication to send it at random to young people. Given that only the complete questionnaire replies were recorded by the online platform, it was not possible to collect the final response rate. The policy was set by limiting the number of possible replies to 1 per participant.

The self-administered questions were designed with the aim of investigating the influence of COVID-19-related containment measures due to the national lockdown on couples' sexuality, as well as on individual sexual behaviors.

Main Outcome Measures

Basic demographic information was identified: gender, age group, and level of instruction. The mean number of children was collected.

We analyzed the socioeconomic aspects from the study population, including the need to leave home for work issues and the difference in monthly profits compared to before the pandemic. A specific-adapted scale was used to measure the mood before the beginning of the COVID-19 pandemic and during the quarantine. Each participant gave a score from 1 to 10 (1 = no well-being; 10 = total well-being).

Concerning the sexual health domains, we started by asking participants if they were spending the quarantine at home with their partners.

Details about the couples' relationship status (stable or unstable), the average of time spent at home with the partner per day, the mean number of sexual intercourses (SIs) per week before and during the quarantine were collected. SI was measured per week in the related tables. Respondents who reported a SI reduction during the quarantine were asked the reasons why this might have occurred, being able to choose more than one option in the answers. In addition, sexual desire reduction linked to concerns about the COVID-19 period was examined.

Furthermore, individual sexual behaviors were assessed, by asking all the participants about the frequency of autoerotism during the quarantine and the potential reasons that led to its possible decrease.

Statistical Analysis

The qualitative data were tested using the chi-square test or Fisher's exact test, where appropriate, while the continuous variables, presented as median (interquartile range [IQR]), were tested using Mann-Whitney U test or Student's *t* test according to their distribution (according to the Kolmogorov-Smirnov test). Spearman's correlation has been applied to test association between variables. For all statistical comparison, significance was considered as $P < 0.05$. All collected data were evaluated with Statistical Package for Statistical Sciences (SPSS, Version 25.0), IBM, Chicago, IL).

RESULTS

The survey involved a study population of 1576 participants: 1018 women (64.6%) and 558 men (35.4%). The baseline demographic and socioeconomic data are shown in [Table 1](#). The majority of the sample belongs to the age group between 31 and 46 years (66.6%). The most represented educational level is tertiary (University; 64.7%). In 1526 cases (96.8%), participants reported to be in stable relationship and 1232 participants (78.1%) had ≤ 1 child.

The well-being status before and during the COVID-19 pandemic is depicted in [Figure 1](#). A significant decline in the mean scores reported during the quarantine, compared to before, was depicted (6.0 [IQR: 4.0-7.0] vs 7.0 [IQR: 6.0-8.0], respectively; $P < 0.01$). A positive correlation between the well-being scores and the number of SI before ($s = 0.13$; $P < 0.01$) and during the quarantine ($s = 0.20$; $P < 0.01$) was found.

A mean time of >12 hours per day at home with the partner was spent by 1046 participants (66.4%). About 1112 individuals (70.6%) stopped going to work and 322 (20.4%) reported a reduction higher than 50% of their monthly profits. However,

Table 1. Demographic and socioeconomic data of participants (n = 1576)

Parameter	Value, n (%)
Gender	
Male	558 (35.41)
Female	1018 (64.59)
Age range (years)	
18-25	120 (7.61)
26-30	406 (25.76)
31-35	472 (29.95)
36-40	324 (20.56)
>40	254 (16.12)
Level of education	
Middle school	98 (6.22)
High school	458 (29.06)
Graduation	1020 (64.72)
Stable relationship	
Yes	1526 (96.83)
No	50 (3.17)
Quarantine at home with the partner	
Yes	1222 (77.54)
No	354 (22.46)
Time spent with the partner at home (hours)	
0	290 (18.40)
<12	240 (15.23)
>12	270 (17.13)
>18	128 (8.12)
24	648 (41.12)
Previous children, n	
0	930 (59.01)
1	302 (19.16)
2	288 (18.27)
>2	56 (3.55)
Active work outside during quarantine	
Yes	464 (29.44)
No	1112 (70.56)
Reduction of monthly profits during quarantine	
Unchanged	844 (53.55)
1%-30% less	232 (14.72)
31%-50% less	178 (11.29)
51%-70% less	88 (5.58)
71%-100% less	234 (14.85)

no significant association was detected between the mean salary reduction and SI during the quarantine ($s = 0.3$; $P = 0.43$).

Sexual behaviors before and during the COVID-19 pandemic are described in Table 2. The mean number of SI decreased significantly during the quarantine, compared to before ($P < 0.01$). Specifically, the number of respondents who had $SI \geq 2$ a week during the pandemic reduced from 54.2% to 37.2% ($P < 0.01$).

We found a significant correlation between the number of hours spent at home with the partner and the number of SI during the quarantine ($s = 0.43$; $P < 0.01$); furthermore, the number of children was negatively correlated with the number of SI before the pandemic ($s = -0.18$; $P < 0.01$), but not during the quarantine ($s = -0.04$; $P = 0.17$).

The given reasons for SI reduction were mainly due to poor privacy (43.2%) and lack of psychological stimuli (40.9%). Decreased level of attractiveness and partner's lack of desire were found in 15.0% and 13.5%, respectively.

A total of 1124 respondents (71.3%) did not report reduction in sexual desire, related to pandemic concerns. We demonstrated a positive association between sexual desire and SI during the

quarantine ($s = 0.23$; $P < 0.01$). Likewise, most of the people (61.2%) did not report a reduction in autoerotism practice. In those who reported decreased masturbation activity, the main causes were: poor privacy (46.4%) and lack of desire (34.7%). Among other possible findings, we reported the anxiety and mental stress related to the pandemic (1.8%), unusual autoerotism (2.7%), SI preferences (7.2%), and poor psychological incentives (7.2%).

As shown in Table 3, we also assessed gender differences for sexual habits and we found that men were more likely to show decreased levels of sexual desire during the quarantine than women ($P < 0.01$). No significant differences were found among gender in terms of sexual activity before and during the COVID-19 pandemic ($P = 0.28$ and $P = 0.06$, respectively). Likewise, the occurrence of autoerotism did not differ between males and females ($P = 0.20$).

DISCUSSION

During the first days of the COVID-19 pandemic, the collective perception hypothesized that the lockdown and the obligation to stay home would lead to an exponential rise in the number of conceptions and therefore births, due to the increased number of SI.

Theoretically, the COVID-19 pandemic-related quarantine could have led couples to spend a longer amount of time at home together every day, thus rediscovering their intimacy. Accordingly, in our study sample, as the number of hours per day spent at home with the partner increases, the number of SI significantly rises during the quarantine.

Hypothetically, physical distancing, social isolation and the inability to meet relatives and friends, could have had a direct influence on individuals' physical and psychological health, leading couples who are going through the quarantine together, to get closer to each other.¹⁶ In some groups of workers, the possibility to practice "smart-working" from home, together with the consequential decreased work-related stress, have also improved the quality of time that couples could share together. However, in our study, most of the participants reported higher levels of concerns than before the quarantine. A previous study has shown that higher levels of sexual satisfaction were associated with lower anxiety in teenagers, and lower depression in young adults, particularly in stable couples.¹¹ Equally, as resulted in our survey, decreased levels of well-being significantly correlated with reduced number of SI.

Although in our sample most of the people showed unchanged or augmented levels of sexual desire during the quarantine, the majority reported a negative impact on the number of SI per week. The lack of privacy and the decrease in psychological stimuli emerged as the main causes. Firstly, the presence of children and parents during the whole day, under the same roof, could play an important role in compromising privacy and intimacy. In fact, in our study, as the number of children increases, the number of SI decreases. Moreover, the concerns about the pandemic, the fear of getting infected or of their loved ones contracting the virus, the economic uncertainties,

1= no wellbeing 10= total wellbeing

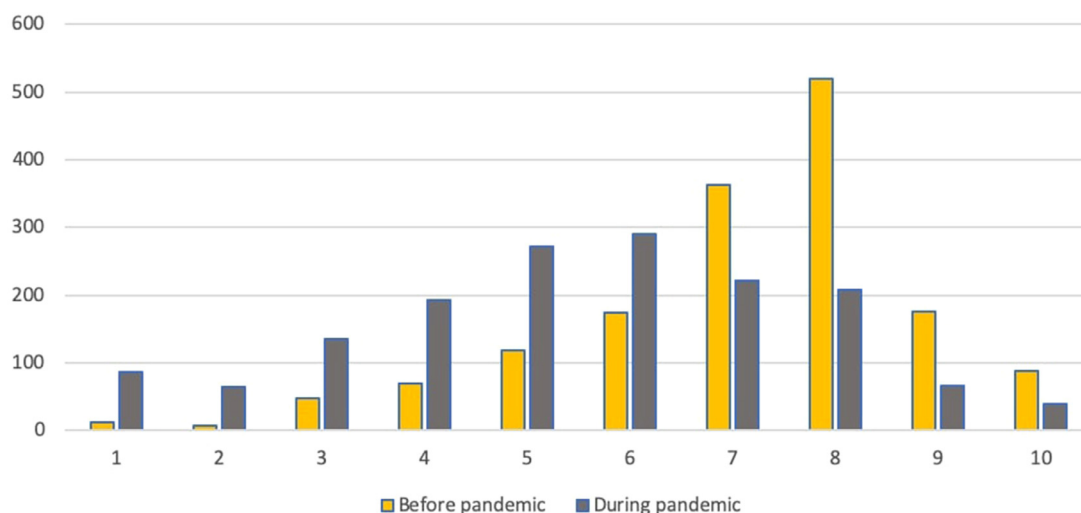


Figure 1. Distribution of well-being scores before and during Covid-19 pandemic. (Color version available online.)

Table 2. Sexual behaviors before and during the Covid-19 pandemic

Question	Value, n (%)
Sexual intercourses before quarantine, n	
0	174 (11.04)
1	548 (34.77)
2-4	696 (44.16)
>4	158 (10.03)
Sexual intercourses during quarantine, n	
0	564 (35.79)
1	426 (27.03)
2-4	452 (28.68)
>4	134 (8.50)
Sexual desire during quarantine	
Reduced	452 (26.68)
Unchanged or augmented	1124 (71.32)
Autoerotism during quarantine	
Reduced	612 (38.83)
Unchanged or augmented	964 (61.17)

and the lack of knowledge regarding a precise quarantine ending date, all represented potential limits that could prevent sexual desire from turning into SI. Furthermore, lower levels of self-care and a greater tendency to neglect physical appearance (ie, staying in pajamas all day) could result into a decrease of the partner's sexual interest.

Furthermore, when comparing sexual desire reduction between genders, men showed a significantly greater reduction in desire; however, this aspect is not reflected into a significant difference between sexes regarding the number of SI during the quarantine. This could probably be due to the prevalence of couples in stable and strong relationships in our sample.

Moreover, as a proof of the overall unchanged sexual desire referred by our participants, the majority of the population masturbated as usual or even more frequently, than before. This could be because autoerotism might be a less emotionally involving practice, when compared to SI.

Table 3. Sexual behaviors before and during the Covid-19 pandemic between genders

Question	Female (n = 1018)	Male (n = 558)	P value
Sexual intercourses before quarantine, n			0.28
0	104 (10.22)	70 (12.54)	
1	378 (37.13)	170 (30.47)	
2-4	438 (43.03)	258 (46.24)	
>4	98 (9.63)	60 (10.75)	
Sexual intercourses during quarantine, n			0.06
0	358 (35.17)	206 (36.92)	
1	290 (28.49)	136 (24.37)	
2-4	302 (29.67)	150 (26.88)	
>4	68 (6.68)	66 (11.83)	
Sexual desire during quarantine			<0.01*
Reduced	336 (33.01)	442 (79.21)	
Unchanged or augmented	682 (66.99)	116 (20.79)	
Autoerotism during quarantine			0.20
Reduced	412 (40.47)	200 (35.84)	
Unchanged or augmented	606 (59.53)	358 (64.16)	

* Statistical significance.

However, analyzing the groups who have reported a decrease in masturbation, most of the people referred that they preferred to have SI, taking advantage of the extra time available with the partner.

As a limitation of the study, we did not use a validated questionnaire, since there is not a specific questionnaire that investigates the impact of a quarantine on sexuality.

CONCLUSION

Potentially, the more time available might lead couples to reconnect at an intimate level and to improve their sexuality. However, the majority of quarantined participants experienced reduced number of SI per week, with poor household privacy and lack of psychological stimuli as cited causes, even as a majority did not report reduced autoeroticism. It will be interesting to evaluate whether the changes in couples' sexuality will be temporary or if the consequences on sexual behaviors will permanently modify couples' relationships.

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EDITORIAL COMMENT



As of August 13, 2020, the World Health Organization has reported 20,439,814 global cases of and 744,385 deaths attributed to COVID-19.¹ Italy is the epicenter in the European Union, with an estimated 251,713 cases and 35,225 deaths, leading to unprecedented healthcare challenges and widespread crises. To date, no effective treatment for COVID-19 has been established. Moreover, high viral transmissibility and considerable mortality rates have forced many national governments to implement quarantine measures to mitigate its progressive risk of spread in communities, as described succinctly herein by the authors.

In this article, the authors attempt to answer a question pertaining to the potential implications of the COVID-19 pandemic-related quarantine on Italian couples' sexuality and sexual lives. They devised a 15-item nonvalidated, web-based quantitative survey in the Italian language in accordance to the Checklist for Reporting Results of Internet E-Surveys.² This was distributed via social media to random Italian couples of all sexual orientations aged ≥ 18 years. This survey was comprised of different demographic and socioeconomic data as well as sexual intimacy, sexual desire, and autoeroticism. They analyzed outcomes extracted from a large Italian cohort of 1576 COVID-19-negative participants consisting of 1018 women (64.6%) and 558 men (35.4%).

Contrary to the assumption that the couples would be rediscovering their sexual intimacy with the added time at home, this study primarily found reduced sexual intimacy per week during quarantine in the majority of cases, compared to before the quarantine. This correlated with decreased levels of well-being due to lack of household privacy, decreased psychological stimuli, fear of viral transmission, pandemic-related anxiety, and economic and uncertainty concerns. Compared with women, men showed a significantly greater reduction in sexual desire (< 0.01). Additionally, this study demonstrated positive associations of sexual desire during the quarantine ($P < 0.01$) and most couples (62%) did not report reduction in autoeroticism.

Taken together, this survey highlights the potential changes in sexual behaviors of couples during this pandemic-related quarantine and underpins the implications to couple's sexual life. It also confirms an increasing body of literature emerging from different parts of the world about the potential influence of COVID-19 on sexual health.³ Hence, this is of special interest

when counseling couples on sexuality during this pandemic and beyond.⁴

The authors do acknowledge the inherited biases and limitations of designing and conducting such a survey, utilizing a non-validated questionnaire with the apparent lack of granular data on sexuality.

This published study will likely add to the studies of sexuality and couples' sex lives as we move through and beyond the COVID-19 pandemic. Further data are necessary to confirm these findings; perhaps a re-launch of this survey later this year will help us to understand how sexual behaviors, as affected by COVID-19 pandemic, have changed over time.

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although there are many validated questionnaires that investigate male and female sexual function, none of these have ever had the specific purpose of examining couples sexual life at the time of a pandemic.

The pandemic-related quarantine represented an imaginable war-like experience, which put a strain on millions of people. It could be assumed that the more time available would led couples to rediscover their intimacy and complicity, improving sexual life. However, this was not the case. Perhaps, a longer amount of hours at home together, away from stress and bustle of everyday life, may have triggered couple problems already present even before the pandemic, forcing couples to address open issues face-to-face. Conversely, worries related to the world situation or fear of being infected could have significantly affected sexuality even in couples with stable and strong relationships.

To strengthen our results, sexual desire was unchanged or augmented during this period. Similarly, autoerotism has not been reduced, except in cases of lack of household privacy, for example, due to the presence of children or parents, which have not made possible to practice it.

This survey confirms that the COVID-19 period has certainly changed sexual behaviors of couples. It would be interesting to understand whether, once the lockdown ended, and therefore the pandemic-related concerns reduced, the sexual well-being of these couples goes to improve or if it has permanently changed over time.

Thus, when counseling couples on sexuality during this pandemic and beyond, both men and women should be aware that any interpersonal conflict and worsening of sexual life arisen during the quarantine could be an alarm for a more severe underlying couple relationship problem. However, couples should also consider that that emotions and feelings during a period like this could be exacerbated or negatively affected.

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AUTHOR REPLY



We greatly appreciate the editorial comment on article. We used an adjusted 15-items nonvalidated questionnaire because,