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To link to this article: http://dx.doi.org/10.52547/JSHP.2202.1008

Published online: 23 May 2022.
Evaluation of sexual behaviors of married couples during the coronavirus pandemic in 2019-2020

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KEYWORDS
sexual frequency; sexual desire; couples;

Abstract

Purpose: Due to the Corona virus pandemic in 2019, all around the world people had to spend a long time in quarantine. The effect of this life style on the sexual behaviors of couples is an important issue that needs further investigation. The present study mainly aimed to investigate the effects of the COVID-19 outbreak on the sexual behaviors of married couples.

Methods: In total, 740 participants completed questionnaires through different online social platforms. The participants were married men and women over 18 years old. The required data were obtained from the sexual behaviors of couple’s questionnaire (Iranian version), Kansas Marital Satisfaction Scale, and demographic variables questionnaire.

Results: Data analysis revealed that 56.1% and 49.7% of the participants experienced no changes in their sexual desire and sexual frequency, respectively. According to multiple regression analysis, it was found that satisfaction with the partner, satisfaction with marriage, economic status, emotional relationship, tobacco use, psychiatric disorders have significant relationships with sexual frequency in couples.

Conclusions: According to the results, it can be concluded that there were no significant differences in sexual desire, frequency, pleasure and request in married couples during the COVID-19 outbreak.

Introduction

A new type of corona virus (COVID-19) was identified in Wuhan, China at the end of 2019. In March 2020, the World Health Organization characterized this disease as a pandemic to emphasize the importance of the situation and make all the countries participate in the prevention of the spread (Park et al., 2020).

One of the solutions to avoid or limit the infection of COVID-19 is quarantine. Quarantine is the separation and restriction of movement of people who are exposed to a contagious disease, with the aim of reducing the risk of infection for others. There have been different examples of
quarantine during the previous decades. For example, there was a citywide quarantine in China and Canada during the 2003 outbreak of severe acute respiratory syndrome (SARS), and another quarantine in many West African countries during the Ebola outbreak 2014 (Brooks et al., 2020).

Undoubtedly, many aspects of lives are affected by Covid-19. This abnormal situation leads to various changes in different aspects of life. One of the most important issues that is strongly affected by this unusual condition, is the marital relationship. According to many reports, one of the consequences of Covid-19 is the increase in domestic violence in many parts of the world (Action, 2020). The Covid-19 affected people in various ways, such as limitation of activities, panic, mental health problems, loss of close persons, life-threatening situations, unemployment, low income levels and separation from families (Rajkumar, 2020). Each of these factors can have a correlation with the marital relationship. Based on the results of several previous research, different factors can affect the sex lives of older adults. These factors include health status, spousal health status, age, gender, education, income, family dynamics, economic self-sufficiency, and perceptions and attitudes toward sexual relationships (Kim, 2001).

According to some previous studies, stress can lead to impairment in empathic accuracy, which differs based on gender (Crenshaw et al., 2019). In addition, stress can affect sexual functions as well. For instance, the findings of a previous study indicated that chronic stress in females can lead to lower levels of genital sexual arousal (Hamilton & Meston, 2013).

Some studies have focused on the effects of an increase in the time couples spend together on the quality of their relationships. Another research revealed that retirement had positive effects on the marital quality in happy marriages, while it negatively affected conflict-ridden marriages. Moreover, according to previous research, an increase in the time couples spend together may amplify their preexisting marital conflicts and problems. Furthermore, marital quality decreases when the wife keeps working after the retirement of her husband, especially in couples with traditional gender-roles (Szinovacz & Schaffer, 2000).

According to the results of a study conducted by Liu about the impacts of disasters on sexual behavior, there was a reduction in the sexual frequency and satisfaction of women after the Wenchuan earthquake (Liu et al., 2010).

As mentioned before, Covid-19 can change various aspects of life which have a direct influence on the quality of marital relationships. Furthermore, as several studies have proved, there is a strong positive association between relationship satisfaction and sexual satisfaction. The interpersonal exchange model of sexual satisfaction proposes that relationship quality affects sexual satisfaction in couples (Byers, 2005).

Sexual desire plays a major role in a marital relationship. Sexual satisfaction helps many daily problems and conflicts to be solved easily, and it increases the affection between partners (Byers, 2005).

Despite the fact that this is a crucial issue, there were only a limited number of studies on the changes in sexual behaviors during the Corona virus pandemic. An investigation that was performed in China, revealed no changes in the sexual activities and satisfaction of young males and females during the COVID-19 quarantine (Li et al., 2020). Another study which was performed on females in Turkey indicated that during the COVID-19 pandemic, there was an increase in both sexual desire and frequency in comparison to before the COVID-19 (Yuksel & Ozgor, 2020).

The present study aimed to investigate the impacts of the Corona virus pandemic, on the sexual behaviors of married couples. The main aim of the study was to investigate the sexual behaviors of married men and women during the Corona virus lock down. This research also aimed to find out the relationship between sexual behaviors in this period and demographic variables, such as age, gender, education level, and the number of children.

**Method**

The present study was conducted based on a cross-sectional design. The data of the research, were being collected during the second lock down in Iran, from October 2020 to November 2020. Sampling method for this research was
Volunteer or self-selection sampling. Required data were collected through online platforms. The questionnaires were designed in Parsline software and their links were sent to the participants. The information about the research and participation invitations were provided through different social media platforms like Instagram, WhatsApp and Telegram. Because of the online assessment method, there was no limitation on the geographic environment and people from all cities in Iran could participate in the survey. The inclusion criteria consisted of being literate, married, and over 18 years old. If the participants did not meet the inclusion criteria, the online questionnaire would close automatically. In total, 740 participants completed the questionnaires, however, 148 questionnaires were not completed correctly, and were removed from the statistical analysis. Finally, 592 questionnaires were used to collect

Table 1. Demographic Characteristics of Participants

| Items                        | Total (n=592) | Male (n=229) | Female (n=363) | P-Value |
|------------------------------|--------------|--------------|----------------|---------|
| Age                          |              |              |                |         |
| 18-25                        | 30 (5.1%)    | 9 (3.93%)    | 21 (5.78%)     | 0.15    |
| 26-30                        | 81 (13.7%)   | 25 (10.91%)  | 56 (15.42%)    |         |
| 31-35                        | 139 (23.5%)  | 56 (24.45%)  | 83 (22.86%)    |         |
| 36-40                        | 140 (23.6%)  | 91 (39.73%)  | 49 (13.49%)    |         |
| 41-45                        | 92 (15.50%)  | 54 (23.58%)  | 38 (10.46%)    |         |
| 46-50                        | 66 (11.1%)   | 35 (15.28%)  | 31 (8.53%)     |         |
| 51-55                        | 44 (7.4%)    | 17 (7.42%)   | 27 (7.43%)     |         |
| Education Level              |              |              |                |         |
| Below high school            | 33 (5.57%)   | 17 (7.42%)   | 16 (4.40%)     | 0.79    |
| High school                  | 112 (18.91%) | 74 (32.31%)  | 38 (10.46%)    |         |
| Bachelor's degree            | 54 (9.12%)   | 30 (13.10%)  | 24 (6.61%)     |         |
| M.Sc.                        | 211 (35.58%) | 139 (60.69%) | 72 (19.83%)    |         |
| M.A                          | 106 (17.90%) | 62 (27.07%)  | 44 (12.12%)    |         |
| Ph.D. or above               | 76 (12.83%)  | 41 (17.90%)  | 35 (9.64%)     |         |
| Satisfaction with the current financial status |          |              |                |         |
| Absolutely                   | 87 (14.69%)  | 57 (24.89%)  | 30 (8.26%)     | 0.33    |
| Somewhat                     | 255 (43.07%) | 163 (71.17%) | 92 (25.34%)    |         |
| No                           | 250 (42.22%) | 143 (62.44%) | 107 (29.47%)   |         |
| Occupation                   |              |              |                |         |
| Unemployed                   | 12 (2.02%)   | 3 (1.31%)    | 9 (2.47%)      | 0.08    |
| Housewife                    | 195 (32.93%) | 193 (84.27%) | 2 (0.55%)      |         |
| Healthcare worker            | 101 (17.06%) | 61 (26.63%)  | 40 (11.01%)    |         |
| Employee                     | 115 (19.42%) | 48 (20.96%)  | 67 (18.45%)    |         |
| Self-employed                | 138 (23.31%) | 40 (17.46%)  | 98 (26.99%)    |         |
| Student/Soldier              | 19 (3.20%)   | 12 (5.24%)   | 7 (1.92%)      |         |
| Retired                      | 12 (2.02%)   | 6 (2.62%)    | 6 (1.65%)      |         |
| Tobacco Use                  |              |              |                |         |
| Always                       | 39 (6.58%)   | 9 (3.93%)    | 30 (8.26%)     | 0.001   |
| Sometimes                    | 86 (14.52%)  | 32 (13.97%)  | 54 (14.87%)    |         |
| No                           | 467 (78.88%) | 145 (63.31%) | 322 (88.70%)   |         |
| Psychiatric illness          |              |              |                |         |
| Yes                          | 60 (10.13%)  | 22 (9.60%)   | 38 (10.46%)    | 0.49    |
| No                           | 532 (89.86%) | 207 (90.39%) | 325 (89.53%)   |         |
| Physical illness             |              |              |                |         |
| Yes                          | 128 (21.62%) | 41 (17.90%)  | 87 (23.96%)    | 0.31    |
| No                           | 464 (78.37%) | 188 (82.09%) | 276 (76.03%)   |         |
| Medication                   |              |              |                |         |
| Yes                          | 146 (24.66%) | 56 (24.45%)  | 90 (24.79%)    | 0.54    |
| No                           | 446 (75.33%) | 173 (75.54%) | 273 (75.20%)   |         |
| Number of children           |              |              |                |         |
| 0                            | 163 (27.53%) | 68 (29.69%)  | 95 (26.17%)    | 0.23    |
| 1                            | 179 (30.33%) | 62 (27.07%)  | 117 (32.23%)   |         |
| 2                            | 203 (34.29%) | 79 (34.49%)  | 124 (34.15%)   |         |
| 3                            | 39 (6.58%)   | 18 (7.86%)   | 21 (5.78%)     |         |
| 4                            | 7 (1.18%)    | 1 (0.43%)    | 6 (1.65%)      |         |
| More than 4                  | 1 (0.16%)    | 1 (0.43%)    | 0 (0%)         |         |
the required data. This study was approved by the Ethics Committee for Research at Shiraz University of Medical Sciences (IR.SUMS.REC.1399.260). The data analysis was performed in SPSS software (version 22) using the descriptive statistic, univariate regression and Logistic multivariate regression.

**Measures**

**Sexual behaviors of couples (Iranian version)**

The Sexual behaviors of couples (Iranian version) is a translated version of a Chinese questionnaire about sexual behavior of couples during the Covid-19 pandemic. In Iranian version of the Questionnaire, some questions were being changed to be appropriate in Iranian culture and society. This questionnaire consists of 12 items and assesses the previous and present sexual behaviors of couples. Through the evaluation of changes in sexual desire, rate of sexual relationship, sexual pleasure and demands for sexual relationship (Li et al., 2020). To assess the reliability of the translated version in Iran, first the questionnaire was completed by 300 subjects. The Cronbach's alpha was obtained at 0.83; accordingly, the reliability of the questionnaire was good in Iran.

**Kansas Marital Satisfaction Scale (KMSS)**

The KMSS is a three-item questionnaire; which is scored based on a seven-point Likert scale ranging from 1 (completely dissatisfied) to 7 (completely satisfied). In this scale, greater scores indicate more satisfaction in marital life. According to Alidoosti et al (2020), the reliability of the Persian version of this scale was good with a Chronbach’s alpha of 0.98 (ARAB et al., 2015).

**Demographic characteristics form**

This form consisted of questions about Different demographic characteristics, including gender, age, number of children, occupation, education level, income level, history of using drug and alcohol, and history of medical and mental problems. This form also included questions about the quarantine.

**Results**

For the purpose of the study, 740 participants were asked to complete the questionnaires during the COVID-19 lockdown. Due to the exclusion criteria, 148 (20 %) of the completed questionnaires were excluded and 592 questionnaires were valid. In total, 363 and 229 (29.7%) of the participants were female and male, respectively. Most of the subjects (163, 22%) were within the age range of 31-35 years old. Moreover, the majority of them had a master's degree. Besides, most of the female and male participants were housewives and self-employee, respectively. Approximately 10% of the participants suffered from psychiatric illnesses, including anxiety, depression, panic attack, obsessive-compulsive disorder and Trichotillomania. In addition, 128 (21.61%) of them had physical illnesses, the most common of which were cancer, blood pressure, diabetes, migraine, and back ache. The only variable which was significantly different between men and women was tobacco use. More details about demographic characteristics are provided in Table 1.

According to the results, 273 (46%) of the participants did not meet their family while 61% of them had telecommunications with their families during the COVID-19 quarantine. Most of the participants (n=496, 83.78%) left their houses just for essential tasks and most of the time were at home. Moreover, 8 (1.4%) subjects had suffered from COVID-19, and 11 (1.9%) of them had positive cases of COVID-19 in their families.

According to the findings, more than half of the participants were highly satisfied with their partners (53.5%) and marriages (52.7%). In addition, 48% of them had emotional satisfaction in their relationships.

Majority of the participants declared that their sexual desire (56.1%) and frequency (49.7%) did not change during the COVID-19 pandemic and lockdowns compared to before. Moreover, the difference between men and women was not significant in terms of these variables (P=0.25). The results also revealed that the participants reported consumption of contraceptives and their
sexual pleasure did not undergo any change at all. Table 2 shows more details in this regard.

According to multiple regression analysis satisfaction with the partner, satisfaction with marriage, economic status, emotional relation, tobacco use, psychiatric disorder are variables that have significant relationships with sexual frequency in couples. These results are summarized in Table 3.

| Table 2. Sexual relationships of Participants | Total (n=592) | Male (n=229) | Female (n=363) | P-Value |
|----------------------------------------------|--------------|--------------|----------------|---------|
| **Satisfaction with your Spouse**            |              |              |                |         |
| Very much                                    | 317 (53.54%) | 166 (72.48%) | 151 (41.59%)   | 0.016   |
| Moderate                                     | 212 (35.97%) | 149 (65.06%) | 64 (17.63%)    |         |
| Little                                       | 38 (6.41%)   | 30 (13.10%)  | 8 (2.20%)      |         |
| Not at all                                    | 24 (4.05%)   | 19 (8.29%)   | 5 (1.37%)      |         |
| **Satisfaction with your marriage**          |              |              |                |         |
| Very much                                    | 313 (52.87%) | 142 (62.00%) | 171 (47.10%)   | 0.015   |
| Moderate                                     | 205 (34.62%) | 66 (28.82%)  | 139 (38.29%)   |         |
| Little                                       | 47 (7.93%)   | 15 (6.55%)   | 32 (8.8%)      |         |
| Not at all                                    | 27 (4.56%)   | 7 (3.05%)    | 20 (5.50%)     |         |
| **Satisfaction with your emotional relationship** |            |              |                |         |
| Very much                                    | 248 (41.89%) | 152 (66.37%) | 129 (35.53%)   | 0.008   |
| Moderate                                     | 205 (34.62%) | 71 (31.00%)  | 34 (36.91%)    |         |
| Little                                       | 66 (11.14%)  | 19 (8.29%)   | 47 (12.94%)    |         |
| Not at all                                    | 37 (6.25%)   | 10 (4.36%)   | 27 (7.43%)     |         |
| **Sexual Desire**                            |              |              |                |         |
| Less                                         | 183 (30.91%) | 56 (24.45%)  | 127 (34.98%)   | 0.078   |
| No Change                                    | 332 (56.08%) | 136 (59.38%) | 196 (53.99%)   |         |
| More                                         | 77 (13.00%)  | 37 (16.15%)  | 40 (11.01%)    |         |
| **Sexual Frequency**                         |              |              |                |         |
| Less                                         | 209 (0.91%)  | 73 (31.87%)  | 136 (37.46%)   | 0.25    |
| No Change                                    | 294 (6.08%)  | 118 (51.52%) | 176 (48.48%)   |         |
| More                                         | 89 (13.00%)  | 38 (16.59%)  | 51 (14.04%)    |         |
| **Consumption of contraceptives**            |              |              |                |         |
| Less                                         | 69 (11.65%)  | 27 (11.79%)  | 42 (11.57%)    | 0.51    |
| No Change                                    | 488 (82.43%) | 190 (82.96%) | 298 (82.09%)   |         |
| More                                         | 35 (5.91%)   | 12 (5.24%)   | 23 (6.33%)     |         |
| **Sexual pleasure**                          |              |              |                |         |
| Less                                         | 146 (24.66%) | 51 (22.27%)  | 95 (26.17%)    | 0.41    |
| No Change                                    | 375 (63.34%) | 144 (62.88%) | 231 (63.63%)   |         |
| More                                         | 71 (11.99%)  | 34 (14.84%)  | 37 (10.19%)    |         |
| **Demand for Sexual relationship by you**    |              |              |                |         |
| Less                                         | 171 (28.88%) | 53 (23.14%)  | 118 (32.50%)   | 0.012   |
| No Change                                    | 332 (56.08%) | 127 (55.45%) | 205 (56.47%)   |         |
| More                                         | 89 (15.03%)  | 49 (21.39%)  | 40 (11.09%)    |         |
| **Demand for Sexual relationship by your spouse** |          |              |                |         |
| Less                                         | 146 (24.66%) | 53 (23.14%)  | 93 (25.61%)    | 0.113   |
| No Change                                    | 315 (53.20%) | 130 (56.76%) | 185 (50.96%)   |         |
| More                                         | 131 (22.12%) | 45 (19.65%)  | 86 (23.69%)    |         |
| Live Together                                 |              |              |                |         |
| Yes                                          | 453 (76.52%) | 171 (74.67%) | 282 (77.68%)   | 0.12    |
| No                                           | 32 (5.40%)   | 8 (3.49%)    | 24 (6.61%)     |         |

**Discussion**

According to the results, most of the participants reported no change in their sexual desire, frequency, pleasure, or demand during the COVID-19 quarantine. A similar study was performed about sexual behavior during the COVID-19 quarantine in March 2020 in China. The questionnaires for the above mentioned study were completed through online platforms (Li et al., 2020). And its findings were in line with those of the present study. Both studies revealed no changes in sexual desire, frequency, pleasure, or demand during the COVID-19 quarantine. There can be different reasons for these results; for
example, one of them is that the sexual behavior of couples is affected by the quality of their relationships. It was found that during the COVID-19 pandemic, the fact that couples had to spend more time with each other did not affect the quality of their relationship. This means that couples probably keep their relationship the same as before the pandemic; therefore, their sexual behaviors remain the same too.

Another study about sexual behavior during the COVID-19 pandemic; which was carried out in Turkey, compared the sexual behaviors of a group of women before and after the pandemic. Based on the results of the aforementioned study, their sexual desire and frequency increased during the pandemic (Yuksel & Ozgor, 2020). This is incompatible with the results of the present study and the probable reason for this difference is that their study was performed on a special group of women at a hospital, while this study was performed on both men and women in normal conditions. Therefore, the samples of these two studies were completely different. Besides, the participants of the present study had to compare their sexual behaviors before and after the COVID-19 and their answers could be affected by false memory.

According to the findings of another study which was conducted to evaluate the effect of an earthquake on sexual frequency and satisfaction, there was a reduction in both variables before and after the earthquake. This is inconsistent with the results of the present research. As mentioned in the original research, the reasons for the decrease in variables were bad living conditions after an earthquake, like insufficient access to clean water, post-traumatic psychological conditions, and infectious diseases (Liu et al., 2010). However, despite the fact that the COVID-19 pandemic, affected many aspects of life, the habitation and access to hygienic stuff were the same as before. It seems that the stability of these factors could be the reason for this inconsistency.

There was a disagreement between the findings of this study and those of the aforementioned Chinese research. In this study, there was no significant difference between the sexual behaviors of men and women; however, the results of the Chinese study indicated a significant difference between men and women in this regard. The probable reason is that the participants of the Chinese study consisted of both married and unmarried people, while in this study the focus was on married couples. Moreover, the unmarried participants of the Chinese study, as was mentioned in their research, reported their sexual experiences with different partners (Li et al., 2020). Nevertheless, in this study, the reported experiences belonged to married couples with one partner.

The findings also revealed that sexual frequency is affected by satisfaction with the partner, satisfaction with the marriage, economic status, emotional relationship, tobacco use, psychiatric disorder. However, as mentioned before, mental health problems and low-income
levels were the consequences of Covid-19 (Rajkumar, 2020). On the other hand, an investigation carried out by Brody (2009) revealed that sexual frequency is associated with sexual satisfaction, life satisfaction, relationship satisfaction, and mental health of the partner (Brody & Costa, 2009); which is in agreement with the findings of this research.

According to another research, socioeconomic status was not correlated with sexual frequency, and in women, marital satisfaction had a relationship with sexual frequency (Doddridge et al., 1987). During quarantine couples spend more time with each other; accordingly, it seems that previous problems are able to affect their sexual life more than before. Various problems, like the lack of satisfaction with partner and satisfaction with marriage in hard times can decrease sexual relationships. These are the basic requirements of a healthy sexual relationship. These findings are in agreement with those of the previous studies on retired couples; which revealed that the relationship quality before retirement predicts the relationship quality after retirement (Szinovacz & Schaffer, 2000). Despite the fact that some issues, such as economic problems increased during COVID-19 (Rajkumar, 2020); they will show their effects more than in the past. All of the mentioned factors in the study completely influence the quality of life and relationship, and as mentioned in the previous research, the quality of relationship and satisfaction with the relationship has a strong positive correlation with sexual relationship (Fallis et al., 2016), (Byers, 2005), (Henderson-King & Veroff, 1994).

Conclusion

In conclusion, the findings indicated the sexual desire, frequency, pleasure, and demand of the married couples during the COVID-19 quarantine. Moreover, there was gender-based difference in these sexual variables during the quarantine. It was also found that sexual frequency had a relationship with satisfaction with partner, satisfaction with marriage, economic status, emotional relationship, tobacco use, and psychiatric disorder during COVID-19 quarantine.

Conflict of interest

The authors declare that they have no competing interests.

Acknowledgments

The main source of funding in all stages of the research, was Shiraz university of medical sciences (Grant number: 19838).

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