

Whether the COVID-19 pandemic affect sexual behavior: a literature review

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ABSTRACT

Background: COVID-19 Pandemic has a great impact not only on the physical health but also the mental health. With an increase in mental disorders, such as anxiety disorders, during the pandemic, we would expect people would take extra cautions when they are involved in social interactions, including dating behaviors, sexual activities and other sex related behaviors.

Method: To understand whether the COVID-19 pandemic changes human sexual behavior, we conducted a literature review on Pubmed by using “pandemic”, “dating”, “relationship”, “sexual behavior” and “COVID-19” as the search keywords for published studies from 2020 to 2021, and only to include the articles available in English.

Result: We found 11 research papers from 10 countries. Most of them used online questionnaires, while some studies used telephone interviews to collected responses. Our review found that Female Sexual Function Index (FSFI) score, desire, desire for pregnancy, the frequency of sexual intercourses, risky sexual behaviors, sexual seeking activities, and the satisfaction of sexual activity have all decreased during the COVID-19 pandemic. FSFI and International Index of Erectile Function (IIEF) negatively correlated with GAD-7 score, implicating that sexual dysfunction was associated with the severity of anxiety. Of note when compared with the sexually inactive participants, sexually active participants had significantly lower anxiety or GAD-7 scores.

Conclusion: Our study results showed that the COVID-19 pandemic significantly affects human sexual life. Interruptions of sexual behavior and increase in sexual dysfunction are associated with anxiety.

Introduction

Sexual activity plays an important role in human life, but after COVID-19 Pandemic broke out, preventive measures to contain the infection such as social distancing may have a great impact on not only this human behavior, but also on human mental health.

Method

We have conducted a literature review on PubMed with the keywords: “pandemic,” “dating,” “relationship,” “sexual behavior” and “COVID-19”, on the articles published between 2020 to 2021.

Results

- ◆ Our review included 11 studies with 15194 participants, with the demographic data shown in **Table 1**.

Table 1. General characteristics studies

| Author (Y) | Country | N | Gender (N) | | | Education (%) | | Yes (%) | Yes (%) |
|------------------------|--------------------------|-------|------------|--------|-------------------|---------------|----------|----------------|-----------------|
| | | | Male | Female | Third sex \ other | Secondary | Graduate | Smoking status | Drinking habits |
| Arafat et al., 2020 | Bangladesh, India, Nepal | 120 | 93 | 26 | 1 | 77.5 | 22.5 | 6.7* | 16.7* |
| Jacob et al., 2020 | United Kingdom | 868 | 320 | 548 | 0 | - | - | 12.3 | 68.0 |
| Karagöz et al., 2020 | Turkey | 245 | 148 | 97 | 0 | 13.87 | 86.12 | 38.8 | 34.7 |
| Ko et al., 2020 | Taiwan | 1,954 | 649 | 1,305 | 0 | - | - | - | - |
| Li, G et al., 2020 | China | 967 | 541 | 426 | 0 | 50.78 | 49.22 | - | - |
| Li, W et al., 2020 | China | 459 | 270 | 189 | 0 | 47.06 | 52.94 | - | - |
| Mollaioli et al., 2020 | Italy | 6,821 | 2,644 | 4,177 | 0 | 38.6 | 61.4 | - | - |
| Sanchez et al., 2020 | USA | 1,051 | 1,051 | 0 | 0 | - | - | - | 98.6 |
| Schiavi et al., 2020 | Italy | 89 | 0 | 89 | 0 | 59.93 | 46.06 | 16.8 | - |
| Shilo et al., 2020 | Israel | 2,562 | 2,562 | 0 | 0 | 45.5 | 54.5 | - | 31.8 |
| Yuksel et al., 2020 | Turkey | 58 | - | 58 | 0 | 87.9 | 12.1 | 27.6 | 10.3 |

Note: *Arafat2020-Addicted to these substances, Y: year, N: number of participants.

FSFI total

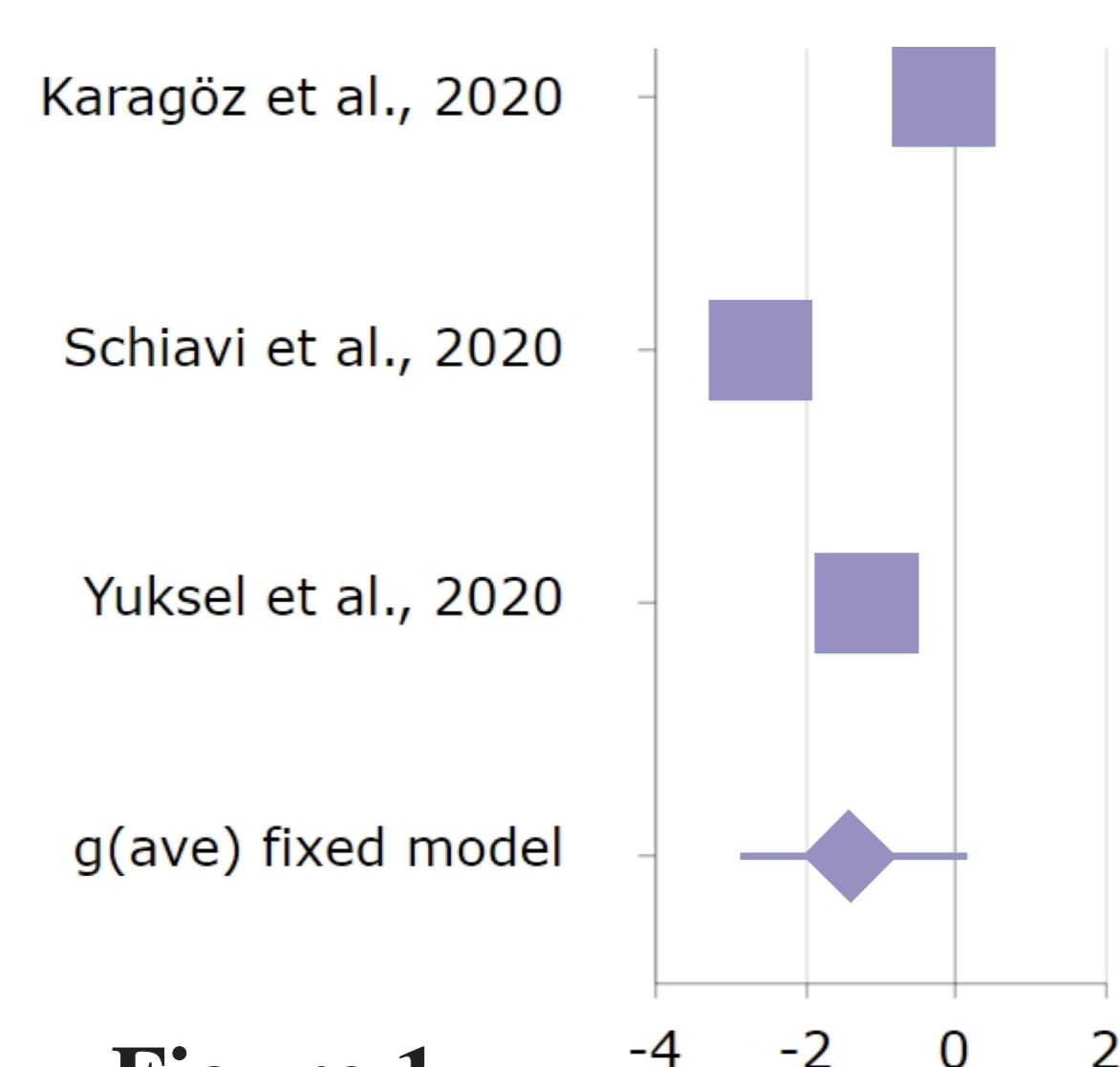


Figure 1

IIEF domains

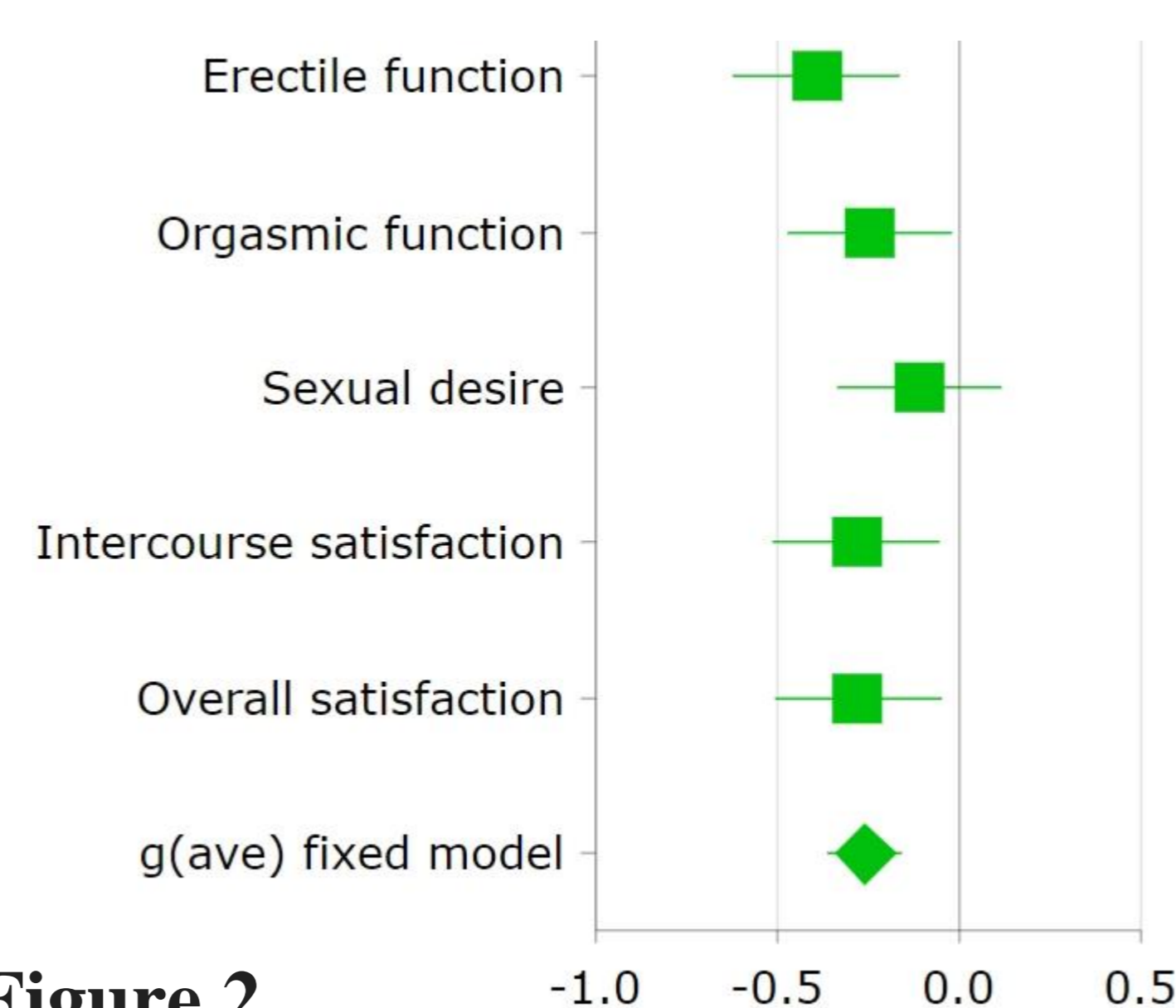


Figure 2

Table 2.

Comparison of participants' sexual behavior during the COVID-19 pandemic

| Author (Y) | Sexual behavior | Sexual intercourse frequency | Sexual satisfaction | Sexual desire |
|------------------------|-----------------|------------------------------|---------------------|---------------|
| Arafat et al., 2020 | - | ↓ | - | - |
| Jacob et al., 2020 | ↓ | - | - | - |
| Karagöz et al., 2020 | - | - | - | - |
| Ko et al., 2020 | - | ↓ | ↓ | - |
| Li, G et al., 2020 | - | ↓ | ↓ | ↓ |
| Li, W et al., 2020 | - | ↓ | ↓ | ↓ |
| Mollaioli et al., 2020 | - | ↓ | - | - |
| Sanchez et al., 2020 | - | - | - | - |
| Schiavi et al., 2020 | ↑ | - | ↓ | ↓ |
| Shilo et al., 2020 | ↓ | - | - | - |
| Yuksel et al., 2020 | - | ↓ | - | - |

Note. Y : year, ↓: decrease, ↑: increase(in each domain during the pandemic compared to the time prior to the pandemic.)

- ◆ There is a general reduction in all the sexual domains (behavior, frequency of intercourse, satisfaction, desire) (**Table 2**).
- ◆ The forest plot showed that participants reported have lower sexual function (FSFI total, **Figure 1**; IIEF, **Figure 2**), measured during the COVID-19 Pandemic (with the diamond on the left side of the 0) when compared to the time prior to the Pandemic.

- ◆ In the literature review, we also found study reporting a negative correlation between anxiety and both female (FSFI) and male (IIEF) sexual function. (Karagöz et al, 2020).

Conclusion

- ◆ Decreased sexual function, frequency, and satisfaction of sexual activity in the research results show the COVID-19 pandemic significantly impacted human sexual life
- ◆ The decrease in sexual function score and anxiety are highly associated.

Reference:

1. Karagöz, M. A., Gül, A., Borg, C., Erihan, İ. B., Uslu, M., Ezer, M., Erbağcı, A., Çatak, B., & Bağcıoğlu, M. (2020). Influence of COVID-19 pandemic on sexuality: a cross-sectional study among couples in Turkey.
2. Schiavi, M. C., Spina, V., Zullo, M. A., Colagiovanni, V., Luffarelli, P., Rago, R., & Palazzetti, P. (2020). Love in the Time of COVID-19: Sexual Function and Quality of Life Analysis During the Social Distancing Measures in a Group of Italian Reproductive-Age Women. *The journal of sexual medicine*, 17(8), 1407-1413.
3. Yuksel, B., & Ozgor, F. (2020). Effect of the COVID-19 pandemic on female sexual behavior. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 150(1), 98-102.