
ERECTILE DYSFUNCTION AND PREMATURE EJACULATION DURING THE PANDEMIC CAUSED BY THE SARS-COV-2 VIRUS

MARTINA PINTEA-TRIFU

Iuliu Hațieganu University of Medicine and Pharmacy, România

**Corresponding author email: pintea.trifu.martina@elearn.umfcluj.ro*

Abstract

Erectile dysfunction (ED) and premature ejaculation (PE) are among the most common male sexual dysfunctions. Meta-analytical studies and systematic reviews describe the frequently comorbid appearance of these two pathologies, being correlated with less favorable experiences with young females. People affected by these pathologies are more likely to have anxiety or depression and have a lower prevalence of organic comorbidities such as diabetes, high blood pressure or dyslipidemia (1,2).

Key words: perception, Sars-CoV-2, sexual behaviour, erectile dysfunction and premature ejaculation.

INTRODUCTION

Erectile dysfunction is defined in DSM-5 (3) by the following diagnostic criteria:

“A. At least one of the following 3 symptoms must be present in all or almost all (approximately 75-100%) sexual acts (in certain particular situations or, if generalized, in all situations):

1. Marked difficulty in obtaining an erection during intercourse.
2. Marked difficulty in maintaining an erection until sexual activity is completed.
3. Marked decrease in erect stiffness.

B. Criterion A symptoms persisted for a minimum of approximately 6 months.

C. Criterion A symptoms cause clinically significant discomfort to the individual.

D. Sexual dysfunction is not better explained by a mental disorder without a sexual component or as a consequence of a severe relationship problem or other major stressors and cannot be attributed to the effects of a substance or drug or medical condition.”

The types of ED are:

- permanent / acquired;
- generalized / situational;
- mild / moderate / severe (3).

The incidence and prevalence of ED increase with age, especially after 50 years, as follows:

- under 40-50 years: about 2%
- over 60-70 years: about 40-50%
- between 40-80 years: 13-21% - occasional erectile problems (3).

In clinical practice, ED management proceeds as follows: evaluation and diagnosis, lifestyle change and stopping/changing medication that could interfere with the etiology of dysfunction, first-line therapeutic interventions, second-line interventions, or as appropriate, therapeutic third-line interventions or fourth-line interventions. First-line therapies consist of: sex education, control of risk factors, treatment of comorbidities, oral drug therapies - phosphodiesterase 5 inhibitors (sildenafil, tadalafil, vardenafil),

phytotherapy, sex therapy and couple therapy with a psychotherapist accredited in the field. Second-line therapies are: vacuum devices, intracavernous injections (alprostadil-PGE1), intraurethral applications of alprostadil. Third-line therapy considers: intracavernous injections with substances with an increased risk of side effects such as priapism (papaverine, phentolamine, eg Trimix, Bimix). Fourth-line therapy uses surgical penile implants (malleable or inflatable penile prostheses), implantable reservoirs, or reconstructive vascular surgery (4,5).

Premature ejaculation has the following diagnostic criteria in DSM-5 (3):

“A. A persistent or recurrent pattern of ejaculation that occurs during sexual intercourse with a partner approximately 1 minute after vaginal penetration and before the individual so desires.

B. The symptom of Criterion A must be present for at least 6 months and must be present in all or almost all (approximately 75-100%) sexual acts (in certain known situations, or if generalized, in all situations).

C. The symptom of criterion A causes clinically significant discomfort to the individual.

D. Sexual dysfunction cannot be better explained by a mental disorder without a sexual component or as a consequence of a serious problem in the couple’s relationship or other major stressors and cannot be attributed to the effects of a substance / drug or condition. medical.”

The types of EP are:

- permanent / acquired
- generalized / situational
- mild / moderate / severe.

The prevalence of premature ejaculation can be summarized as follows:

- over 20-30% of men between the ages of 18-70 describe that they are concerned about the short interval after which they ejaculate;
- 1-3% of men meet the above criteria (3).

The treatment of premature ejaculation takes into account its type / cause. It is intended to increase self-esteem and positive body image, comfort in the couple, individual relaxation, control of the pelvic muscles, formation of a

hierarchy of sexual stimuli, sexual relaxation in the couple, sensory exercises-focus, stop-start technique, sexual contact with relaxed pelvic muscles. Sex therapy can be supplemented with antidepressant medication (eg serotonin reuptake inhibitors, dual antidepressants), anxiolytics (benzodiazepines-alprazolam, lorazepam), creams with local anesthetic, various devices (rubber penial ring), electrostimulation, biofeedback, the treatment of associated pathologies (6).

MATERIAL AND METHOD

The purpose of the research is to study whether the pandemic period caused by the SARS-CoV-2 virus had any influence on two of the most common male sexual dysfunctions - erectile dysfunction and premature ejaculation.

The design of the study is analytical (research of risk factors), observational, longitudinal, retrospective.

The subjects of the study are the respondents of an anonymous Google Forms questionnaire, which assesses the presence and specifiers of erectile dysfunction and premature ejaculation, in the pandemic context caused by COVID-19. The invitation to participate in the study was made by email and by distributing the questionnaire online (on the social network Facebook or WhatsApp), so as to reach respondents men, adults, of all ages, from different backgrounds, from the Romanian cultural space, which were and have not been confirmed with SARS-CoV-2 virus infection.

The criteria for including study participants are:

- informed consent to participate in the study;
 - male sex;
 - age over 18 years;
- The exclusion criteria are:
- lack of informed consent to participate in the study;
 - female gender;
 - age under 18 years.

The data collected from Google Forms were sorted and processed using the Numbers program, and the statistical significance was

calculated using MedCalc. The established statistical significance threshold was $p < 0.05$. The diagnostic criteria used for pathologies were those recommended by DSM-V (3). In the statistical calculations, the cases infected with SARS-CoV-2 were considered confirmed, suspicious, but also probable cases.

RESULTS

The study enrolled 135 male subjects aged between 20 and 69 years (Figure 1), who completed the online questionnaire for 7 days. 123 come from urban areas, and 12 come from rural areas (Figure 2). 18 were confirmed with SARS-Cov-2 infection, 4 were suspected, 24 were probable and 89 were not infected (Figure 3). 49 were quarantined or isolated at home due to the virus (Figure 4).

5.18% of respondents met the diagnostic criteria for ED. 3.7% felt ED before the pandemic, 1.48% had ED installed in the context of the pandemic (Figure 5). 23 showed symptoms of erectile dysfunction (marked difficulty in obtaining an erection during intercourse or marked difficulty in maintaining an erection during intercourse or marked decrease in erectile stiffness) in all or almost all (approximately 75-100%) of sexual intercourse (Figure 6). In 8.1% of them the symptoms persisted for a minimum period of about 6 months, and in 10.4% they caused a clinically significant discomfort. During the dysfunction 13 (9.6%) of the participating individuals went through a major stress.

The SARS-Cov-2 infection does not seem to positively influence the appearance of ED, the odds ratio being $OR = 0.3074$, (95% CI, 0.0359 to 2.6336), $p = 0.281$. The correlation between self-

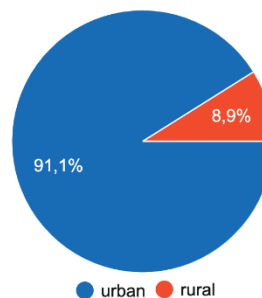


Figure 2. Distribution of individuals according to the environment of origin

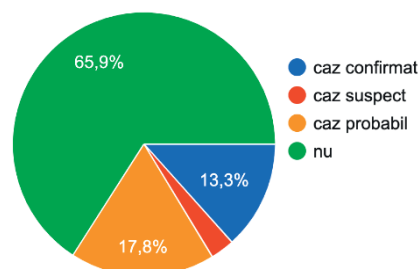


Figure 3. Distribution of subjects according to SARS-CoV-2 infection

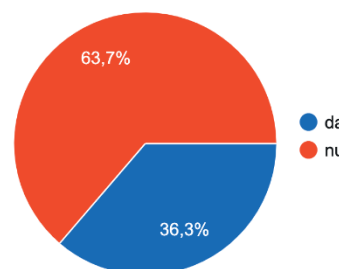


Figure 4. Distribution according to isolation / quarantine measures Erectile dysfunction

isolation / quarantine and ED is described by $OR = 0.277$, (95% CI, 0.325 to 2.3777), $p = 0.242$.

In 8.1% of cases, regarding patients with ED symptoms, sexual disorder is generalized and in 9.6% it is situational; in 10.4% it is mild, in 5.9% moderate, and in 1.5% severe.

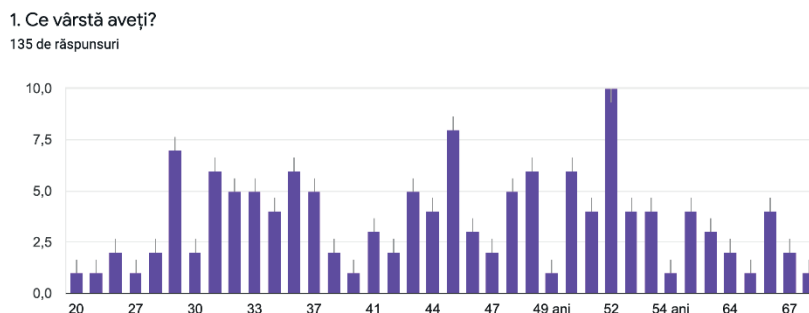


Figure 1. Distribution of subjects by age

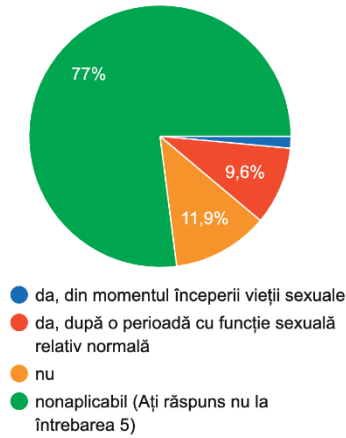


Figure 5. The moment of appearance of the ED

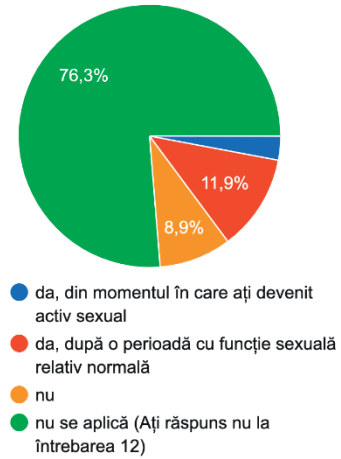


Figure 7. The moment of appearance of the PE

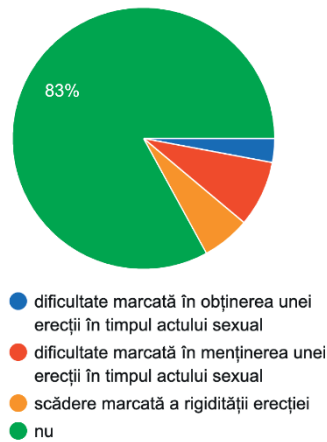


Figure 6. The presence of ED symptoms

Premature ejaculation

EP, meeting the diagnostic criteria, was found in 2.96% of cases. 1.48% of patients developed it during the pandemic and 1.48% had dysfunction before the pandemic (Figure 7).

20 study participants say they ejaculate before they want to, about 1 minute after vaginal penetration (Figure 8). In 8.1% of subjects the symptom persisted for more than 6 months, in all or almost all (approximately 75-100%) sexual acts. In a proportion of 8.1%, the dysfunction causes clinically significant discomfort. 12.6% went through a major stress during the pandemic that could have caused them the problem. For 9.6% of the studied group, sexual disorder is generalized, for 11.1% it is situational, for 10.4% it is mild and for 2.2% it is severe (Figure 9).

The rate of chances, regarding the correlation between the occurrence of premature ejaculation depending on COVID

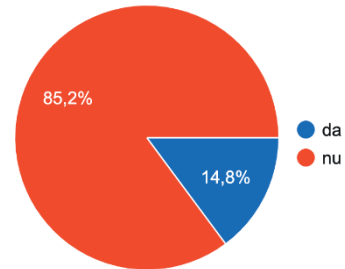


Figure 8. The presence of PE symptoms

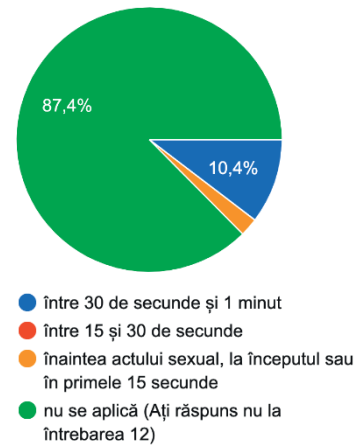


Figure 9. The severity of PE

19 infection, is OR = 1.97 (95% CI 0.2694 to 14.5120), p = 0.502. The rate of chances for the correlation in EP and self-isolation / quarantine is OR = 0.576 (95% CI 0.0583 to 5.6972), p = 0.637.

In the studied group, no patients with both diagnoses, ED and PE, were identified.

Most respondents believe that the pandemic did not affect their sexual performance, while some respondents were positively or negatively affected, according to Table 1.

Table 1. Answers to the question “Do you think that the pandemic period affected your sexual performance? If so, explain how.”

In a positive way	In a negative way
It didn't affect me, on the contrary	Stress
In a good way....	I had sex less often
It was better. I traveled with a delegation, I made love in several cities flying freely by car. I made love in the car during the pandemic several times. In a pandemic you can make love: in the parking lot of Therme, because it is deserted, on the country roads, in hotels in the country because we were the only customers. The only impediment was that I had to make my written statement to make love. And it was exciting in the pandemic that “I penetrated the system” and the nonsense of rules, emergencies or alerts. The pandemic ghost: “If it becomes completely isolated and it will be deserted on the street, I would like to make love with my girlfriend on the roof of Cotroceni while the president is skiing.”	Yes, due to stress, telework
Yes, I noticed an improvement in performance	Stress
It didn't affect my sexual performance	Lack of sexual interest
Increased libido.	stress and reducing the frequency of sexual intercourse
No performance, increased libido.	I think I would have sexual performance. But I haven't had a relationship with my wife in about 12 years. Religious motives on her part. I haven't tried anywhere else. But I think I'll take the plunge. I'm young and I can.
I was better Being more rested	Yes. Another year has passed ... the stress was very high!
No. They have grown	Yes,
It didn't affect my sexual performance.	Low libido
I do not believe!	After the first round, there is no more erection and lust
Yes. In good. I had more time for relationships.	During the pandemic, I felt more stress than usual. This decreased the total number of sexual contacts had during this period.
No, they have been improved	The fact that I got sick with sars cov 2 with all the specific symptoms.
I do not consider that my sexual performance was affected during the pandemic.	I am more stressed and tired and this leads to decreased sexual appetite
Not specifically.	Yes. Higher stress.

DISCUSSIONS

In the studied group, it is observed that the passage through SARS-CoV-2 infection with the related quarantine / self-isolation period or the general quarantine and self-isolation measures imposed for various legal reasons did not cause erectile dysfunction, but had to some extent a positive effect on sexual performance, although the threshold of statistical significance was not reached, $p > 0.05$. The explanation may lie in the fact that the participants in the study had more time to invest (telework, work from home) in the couple's relationship, in fact leading to its improvement. Alternatively, severe inflammation, altered general condition, lung, heart, and other problems are known as etipathogenetic causes of erectile dysfunction, but severe cases in all cases of patients infected with SARS-CoV-2 are few (7.8), and therefore erectile dysfunction does not occur statistically significantly more often in those who are infected than in those who are not.

COVID-19 infection is a risk factor for premature ejaculation, but p is statistically insignificant, probably due to the small number of subjects in the premature ejaculation study, this result being in tandem with the results of other similar studies (9). Quarantine or self-isolation appears to have a protective effect on premature ejaculation.

An impact study with a similar design (10), based on the online completion of a questionnaire, also shows that the pandemic period positively influenced erectile dysfunction and premature ejaculation for some individuals and negatively for others. Another study (11) based on the completion of online questionnaires, which compares the sexual satisfaction of men and women during the pandemic, claims that 68.2% of men had no symptoms of erectile dysfunction and men are more satisfied with sexual activity than the women.

CONCLUSIONS

5.18% of the responding Romanian individuals suffer from erectile dysfunction, 3.7% felt ED before the pandemic, 1.48% had

ED installed in the context of the pandemic. Going through SARS-CoV-2 infection and quarantine / self-isolation at home seem to have some positive effect on erectile function.

2.96% of cases have premature ejaculation, 1.48% of patients developed it during the pandemic and 1.48% had dysfunction even before the pandemic. COVID 19 infection is to some extent a risk factor for the onset of PE, but quarantine / self-isolation may improve the symptoms of PE.

The two studied sexual dysfunctions are not found simultaneously in any participant. About a tenth of the subjects consider that they went through a major stress that would have caused their sexual dysfunction. (12, 13, 14, 15)

BIBLIOGRAPHY

1. Brody S, Weiss P. Erectile dysfunction and premature ejaculation: interrelationships and psychosexual factors. *J Sex Med.* 2015 Feb;12(2):398-404. doi: 10.1111/jsm.12738. Epub 2014 Nov 10. PMID: 25382712.
2. Corona G, Rastrelli G, Limoncin E, Sforza A, Jannini EA, Maggi M. Interplay Between Premature Ejaculation and Erectile Dysfunction: A Systematic Review and Meta-Analysis. *J Sex Med.* 2015 Dec;12(12):2291-300. doi: 10.1111/jsm.13041. Epub 2015 Nov 9. PMID: 26552599.
3. American Psychiatric Association. (2013). Anxiety Disorders. In Diagnostic and statistical manual of mental disorders (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596.dsm05>
4. Carson C, Dean JD. Management of Erectile Dysfunction in Clinical Practice. London: Springer; 2007.
5. Sinescu I, Gluck G. *Tratat de urologie*. București: Editura Medicală București; 2008.
6. Metz M, McCarthy B. *Coping with Premature Ejaculation*. Oakland: New Harbinger Publications, Inc.; 2003.
7. CDC COVID-19 Response Team. Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) - United States, February 12-March 16, 2020. *MMWR Morb Mortal Wkly Rep.* 2020 Mar 27;69(12):343-346. doi: 10.15585/mmwr.mm6912e2. PMID: 32214079; PMCID: PMC7725513.
8. Remuzzi A, Remuzzi G. COVID-19 and Italy: what next? *Lancet.* 2020 Apr 11;395(10231):1225-

1228. doi: 10.1016/S0140-6736(20)30627-9. Epub 2020 Mar 13. PMID: 32178769; PMCID: PMC7102589.
9. Duran MB, Yildirim O, Kizilkan Y, Tosun C, Cirakoglu A, Gultekin MH, Gul U, Altan M, Sah C, Hasirci E, Ceyhan E, Ongun S, Turunc T. Variations in the Number of Patients Presenting with Andrological Problems During the Coronavirus Disease 2019 Pandemic and the Possible Reasons for These Variations: A Multicenter Study. *Sex Med.* 2021 Feb;9(1):100292. doi: 10.1016/j.esxm.2020.100292. Epub 2020 Dec 7. PMID: 33318798; PMCID: PMC7721349.
 10. Fang D, Peng J, Liao S, Tang Y, Cui W, Yuan Y, Wu D, Hu B, Wang R, Song W, Gao B, Jin L, Zhang Z. An Online Questionnaire Survey on the Sexual Life and Sexual Function of Chinese Adult Men During the Coronavirus Disease 2019 Epidemic. *Sex Med.* 2020 Dec 11;9(1):100293. doi: 10.1016/j.esxm.2020.100293. Epub ahead of print. PMID: 33429246; PMCID: PMC7834185.
 11. Omar SS, Dawood W, Eid N, Eldeeb D, Munir A, Arafat W. Psychological and Sexual Health During the COVID-19 Pandemic in Egypt: Are Women Suffering More? *Sex Med.* 2021 Jan 8;9(1):100295. doi: 10.1016/j.esxm.2020.100295. Epub ahead of print. PMID: 33434851; PMCID: PMC7794051.
 12. Delcea C, Chirilă V-I, Săucea A-M., Effects of COVID-19 on sexual life – a metaanalysis. Volume 30, Issue 1, January–March 2021, Pages e49 e54 Elsevier BV. doi.org/10.1016/j.sexol.2020.12.001.
 13. Delcea C, Cordoş A., Perception Stage Regarding Covid-19 And the Sexual Behaviour. *Int J Advanced Studies in Sexology.* Vol. 3, Issue 1, pp. 10-19. Sexology Institute of Romania. 2021. DOI: 10.46388/ijass.2020.13.33
 14. Delcea C., Baruh I., Hunor M., Sexual Life During Covid-19. *Int J Advanced Studies in Sexology.* Vol. 3, Issue 1, pp. 20-25, 2021. Sexology Institute of Romania. DOI: 10.46388/ijass.2020.13.34
 15. Rus M., Sandu L. M., Tănase T., Boumediene S., Delcea C., The effect of the corona virus (COVID-19) on Mental Health. *Int J Advanced Studies in Sexology.* Vol. 2, Issue 2, pp. 116-120, 2020. Sexology Institute of Romania. DOI: 10.46388/ijass.2020.13.30