



# Interaction between the impact of the Coronavirus disease 2019 pandemic and demographic characteristics on sexual/ erectile dysfunction in Latin America: cross-sectional study

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## **ABSTRACT**

Aim: Our objective was to investigate whether there is an interaction between the COVID-19 pandemic, demographic characteristics and erectile/sexual (E/S) function in individuals from Latin America.

Materials and Methods: Cross-sectional study which included Latin American individuals over 18 years old, recruited through social media and interviewed between July and August 2020 by online surveys (Google Forms) in Portuguese and Spanish languages. The E/S function was evaluated through the following questionnaires: Simplified International Index of Erectile Function (IIEF-5) and Female Sexual Function Index (FSFI); while post-traumatic stress disorder (PTSD) triggered by the COVID-19 pandemic was assessed through the Impact of Event Scale Revised (IES-R). The data was analyzed by T Student, bivariate and multivariate logistic regression, with significance determined by the Wald test (p<0.05), using the R software v4.0.

Results: Out of the 2016 individuals that responded to the survey, 1986 were included and 743 of them presented E/S dysfunction. PTSD occurrence was greater among people with E/S dysfunction when compared to those without E/S dysfunction, in the total score (males:  $IES-R=26.54[\pm 19.17]$  and females:  $IES-R=35.92[\pm 19.25]$ ) and also in the three domains. It was found that those who do not live with a partner were 74% more likely to have E/S dysfunction, but living with a partner during the pandemic had a greater impact on E/S function.

Conclusion: A negative interaction between the impact of the COVID-19 pandemic and erectile/sexual function of the Latin American population was observed, with greater implications among the individuals who live with their partners.

## **ARTICLE INFO**



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#### INTRODUCTION

In March 2020, the Coronavirus disease 2019 (COVID-19) pandemic was decreed, starting in Wuhan, China and rapidly affected the whole world, due to its propagation by aerosols and/or droplets (1). Then, governments have adopted social distancing with the intention of diminishing the propagation rate of the disease and raising awareness of its citizens through new health, hygiene, behavioral habits and isolation (2).

According to Schiavi et al. (2020) (2), the CO-VID-19 pandemic represents a risk factor over individuals mental health. A stressing, traumatic, sudden and extremely unexpected event like the COVID-19 pandemic can cause post-traumatic stress disorder (PTSD) (3), which affects essential characteristics of sexual function, like the sensation of safety, self-efficacy and the capability of connecting with others (4).

The Impact of Event Scale Revised (IES-R) (5) questionnaire has been used to assess the PTSD triggered by COVID-19 pandemic (6). According to Letica-Crepulja et al. (2019) (7), PTSD can be used as a predictor parameter for sexual dysfunction. Because of that we hypothesize that COVID-19 pandemic can have a negative impact on sexual function.

Sexual function is a relevant component that contributes to individuals quality of life, and the negative correlation between psychological state and sexual function are well known (4), but little is known about the COVID-19 pandemic impact over sexual function in Latin American population, a region with peculiar sociocultural characteristics, not only because of its geographical proximity, which has cultural similarities (historical, linguistic, religious and political experiences) (8).

Considering that, the aim of our study was to investigate the interaction between the COVID-19 pandemic, demographic characteristics and erectile/sexual (E/S) function in Latin America.

#### **MATERIALS AND METHODS**

## Study design, setting and participants

Cross-sectional study based on an anonymous web survey, through the Google Forms platform, provided in Portuguese and Spanish languages for the Latin American population

# (See supplementary Appendix-1).

The research was conducted from July to September 2020, proposed by the UroPhysiotherapy Laboratory researchers from the Post-graduate Program in Rehabilitation Science of the Federal University of Alfenas, after approval from the Institutional Review Board (IRB) of the university's ethics and research committee (IRB number 34056120.7.0000.5142, Approval number 4128647), following the ethical precepts regulated by Resolution n. 466/12 of the National Health Council and the Helsinki Declaration requirements.

The research was released to the public with an invitation to fill the Google Forms survey through social media (WhatsApp, Facebook, Instagram), UNIFAL-MG communication websites, local newspapers, national and international symposia; reaching for individuals over 18 years old, sexually active, and available to fill the survey through a cell phone, computer or tablet. The Informed Consent Form was made available in the same Google Forms page.

The sample was composed by volunteers who answered the questions, recruited by convenience. The exclusion criteria were individuals under 18 years old, those that were not considered Latin Americans, as well as those who did not consent to the use of their data.

The research followed the Good Clinical Practice Guidelines, adopting the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines.

#### Measurement and quantitative variables

PTSD triggered by the COVID-19 pandemic: The isolation/social distancing measures during the COVID-19 pandemic were considered as triggering events to PTSD, which was investigated by the validated IES-R, asking the participants to consider the memories triggered by COVID-19 in the past seven days to answer the questionnaire. The IES-R is a self-applicable questionnaire originally developed in English language (5), translated and validated to Portuguese language by Santesso et al., (2012) (9) and to Spanish by Caamaño et al., (2011) (10). The scale is composed of 22 items distributed in three subscales (avoidance, intrusion

and hyperarousal domains), each question varies from zero to four (0-4) points, total score ranging from 0 to 88, meaning that a higher score implies greater impairment. Cut-off point: 24 points, classified in:  $\geq$  24: PTSD is a clinical concern - higher score means a higher degree of PTSD;  $\geq$  33: best cut-off point for a likely PTSD diagnosis;  $\geq$  37: extreme PTSD, with enough consequences to cause immune system suppression, even 10 years after the triggering event.

Sexological outcomes: The sexual/erectile function was investigated considering the past four weeks, compared with before the COVID-19 pandemic, using the following variables:

Female sexual function: Clinical condition associated with the sexual act, it was investigated by the validated Female Sexual Function Index (FSFI) (11), self-applicable translated questionnaires for both Portuguese (12) and Spanish (13) languages. The FSFI questionnaire analyzes sexual response, considering desire, arousal, lubrication, orgasm, satisfaction and pain. Total score is calculated by adding the six scores weighted by the respective factor of each domain, varying from two (worst sexual function) to 36 (best sexual function); Cut-off point: 26.55, classified as: without sexual dysfunction: ≥ 26.55; with sexual dysfunction: <26.55 (11, 14).

Male erectile function: Male sexual function, a man's clinical condition linked to the sexual act. was investigated by the Erectile Function domain (IIEF-5) (15) from the International Index of Erectile Function (IIEF) (16), with the purpose of measuring erectile function in a simple and direct way. IIEF was translated and validated in Portuguese language by Gonzales et al. 2013 (17) and Spanish by Zegarra et al. 2011 (18). IIEF-5 consists of five questions and the total score can vary from 5 to 25 points. A score lower than 22 is indicative of erectile dysfunction (15). Therefore, the following variables were considered: IIEF-5 total score: from five (05) (worst erectile function) to 25 (best erectile function); Cut-off point: 22, classified as: Without Erectile Dysfunction:  $\geq$  22; With Erectile Dysfunction: <22.

#### Sex life aspects

Presence and frequency of sexual activity were investigated and classified as: present (incre-

ased frequency; no change in frequency; decreased frequency); suspended or no sexual activity; as well as sexual complaint (never displayed; previously presented; currently without complaint; currently present); partner at home during breakout of COVID-19 pandemic (lives with or without partner) and personal impression of the pandemic impact over sex life (numerical analog scale from 0 to 5).

Demographic data: Gender (male, female); age (18-33 years; 34-77 years, based on sample median); partner cohabitation status (living with or without partner); educational level (less than 10 years of education; 10 or more years of education) and family income (up to 2 minimum wages, 3 or more minimum wages).

#### **Bias**

The study was performed anonymously, thus avoiding participants to be afraid or ashamed to answer questions of sexual nature. The researchers strived in divulgating the study within the Latin American population, encompassing most of Latin America countries and providing the questionnaire in Portuguese and Spanish.

## **Statistical Analysis**

The binary categorical variables (demographic and sexual dysfunction) were presented in absolute and relative frequencies, while the continuous variables (IES-R scores) were presented in central tendency values (average) and dispersion (standard deviation).

The cut-off point of 33 years old was the median of the sample, in order to create equivalent groups. The comparison for the total score average, pandemic impact and the three domains, between males and females, with and without indicative report for sexual dysfunction was performed by Student's T test.

Bivariate logistic regression followed by a multivariate adjusted model (also adjusted for multicollinearity) were used. In all models, significance was analyzed by Wald test, considering p<0.05. All associations were evaluated by odds ratio (OR) values (confidence interval of 95%). The analysis were performed in the 4.0.0 version of the statistical software R (https://www.r-project.org/)

#### **RESULTS**

As shown in Figure-1, this study's questionnaires were answered by 2016 individuals, of whom 30 were excluded (22 refused to participate, five didn't belong to a Latin American country and three had less than 18 years), remaining 1986 participants (466 males, 1520 females) from 17 Latin American countries (Brazil, Chile, Colombia, Argentina, México, Costa Rica, El Salvador, Bolivia, Ecuador, Perú, Venezuela, Nicaragua, Panamá, Guatemala, Paraguay, Puerto Rico, Uruguay).

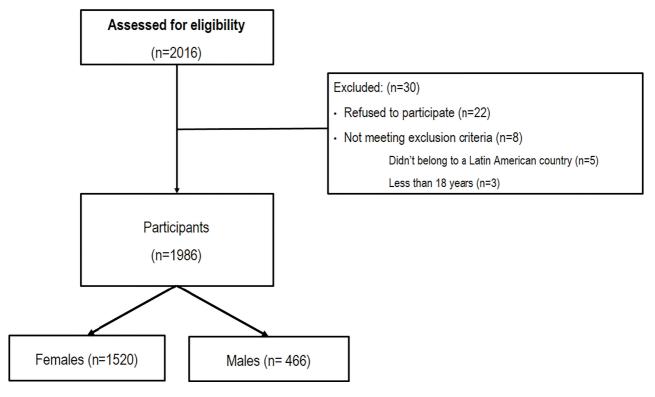
The impact of the COVID-19 pandemic measured with IES-R was 36.7(±19.66), considering 33 the best cut-off point for PTSD diagnosis. It was found in the FSFI and IIEF-5 questionnaires that 37.5% of the participants had sexual disfunction. Also, the participants classified their impression of the pandemic impact on sex life, in a numeric scale from 0 to 5,

which resulted in 2.45 ( $\pm 1.78$ ) (Table-1).

Comparing individuals with and without E/S dysfunction we found that individuals with E/S dysfunction had a higher IES-R score: total score (male [p<0.001]: without erectile dysfunction (ED): 26.01 [ $\pm 19.25$ ], with ED: 36.5 [ $\pm 19.10$ ]; female [p 0.001]: without sexual dysfunction (SD): 36.55 [ $\pm 19.10$ ], with SD: 41.28 [ $\pm 18.99$ ]); intrusion domain (male: p<0.001; female: p=0.011); avoidance domain (male: p<0.001; female: p=0.003) and hyperarousal domains (male: p<0.001; female: p<0.001) in both genders (Table-2).

In the association between demographic characteristics and E/S dysfunction evaluated by an unadjusted model we didn't observe an association between gender (p<0.000 [CI 0.79-1.22]), however we did observe between the age group of 18-33 years old (p<0.000 [CI 0.69-1.00], OR 0.83), marital status of living without a partner (p<0.000 [CI 1.45-2.09], OR 1.74), family income of up to 2

Figure 1 - Flow diagram of the study.



This diagram reports the numbers of participants of the study, including potentially eligible, examined for eligibility, confirmed eligible, included in the study.

Table 1 - Demographic characteristics, impact of event (IIES-R) and sexological outcomes during COVID-19 pandemic.

Variables	Participants
Gender f(%)	
Male	466 (23.4)
Female	1520 (76.6)
Age range* f(%)	
18 - 33 years old	1050 (52.9)
34 - 77 years old	933 (47.1)
Partner cohabitation status $f(\%)$	
Living with partner	1002 (50.4)
Living without partner	984 (49.6)
Educational level f(%)	
10 or more years of study	1636 (82.3)
Less than 10 years of study	350 (17.7)
Family income f(%)	
Three or more minimum wages	1475 (74.2)
Until 2 minimum wages	511 (25.8)
Pandemic Impact** M(±SD)	
Total score	36.37 (±19.66)
Intrusion	12.61 (±7.86)
Avoidance	13.48 (±7.53)
Hyperarousal	10.27 (±6.25)
Sexual Function*** f(%)	
Without sexual dysfunction	1242 (62.5)
With sexual dysfunction	743 (37.5)

Impression of the pandemic impact on sexual life $M(\pm SD)$	2.45 (± 1.78)
Sexual Activity f(%)	
Had not sexual activity and continued not to	124 (10.7)
Decreased in frequency	426 (36.8)
Suspended	142 (12.2)
Without change	341 (29.2)
Increased	122 (11.1)
Sexual Complaint f(%)	
Never presented	533 (47.8)
I had earlier, but currently I have no complaints	322 (27)
I currently have a sexual complaint	280 (24.4)

The data are presented in absolute (f) and percent (%) frequencies as well as mean (M), standard deviation (SD).

Table 2 - Relationship between the IES-R comparing individuals with and without erectile/sexual dysfunction. Analysis stratified by gender.

	N	Male (n=466)		Female (n=1520)		
IES-R	Without ED* (n=291)	With ED* (n=175)	p-value	Without SD* (n=952)	With SD* (n=568)	p-value
Total Score	26.01 (±19.25)	36.50 (±19.10)	<0.001	36.55 (±19.10)	41.28 (±18.99)	0.001
Intrusion	9.94 (±7.54)	13.88 (±7.13)	< 0.001	13.74 (±7.53)	14.71 (±7.10)	0.011
Avoidance	8.88 (±7.46)	12.82 (±7.71)	<0.001	12.58 (±7.65)	14.50 (±7.80)	0.003
Hyperarousal	7.17 (±6.04)	9.80 (±5.98)	<0.001	10.23 (±6.03)	12.06 (±6.15)	<0.001

The Table shows the Impact of Event Scale Revised (IES-R) total score and the Intrusion, Avoidance and Hyperarousal domains (9, 10)

minimum wages (p<0.011 [CI 1.05-1.59], OR 1.30) and the E/S function. On the other hand in the adjusted model, only marital status maintained the association (p<0.000 [CI 1.42-2.13]), as those who do not live with their partner are 74% more likely

to have E/S dysfunction (OR 1.74).

In the association between the IES-R and IIEF-5 or FSFI, we found a positive association in the IES-R total score (p<0.00 [CI 1.01-1.02], OR 1.02), intrusion domain (p<0.00 [CI 1.01-

<sup>\*</sup>The cut-off point of 33 years old (median of the sample, in order to create equivalent groups.

<sup>\*\*</sup>The Event Impact Scale - Revised (IES-R) questionnaire was used to investigate the COVID-19 pandemic impact, using the total score and the Intrusion, Avoidance, and Hyperarousal domains(9,10)

<sup>\*\*\*</sup> Sexual function was investigated using the Female Sexual Function Index (FSFI:  $\leq$  26.55) (14) and International Simplified Erectile Function Index (IIEF-5:  $\leq$  22) (15)

<sup>\*\*\*</sup> Sexual function was investigated using the Female Sexual Function Index (FSFI: ≤ 26.55) (14) and International Simplified Erectile Function Index (IIEF-5: ≤22) (15) Test T Student (p=0.05)

ED = Erectile dysfunction; SD = Sexual dysfunction

1.04], OR 1.02), avoidance domain (p<0.00 [CI 1.02-1.05], OR 1.03) and hyperarousal domain (p<0.00 [CI 1.03-1.06], OR=1.05). It is observed that with each score taken from the IES-R questionnaire, the chance of sexual dysfunction increases (OR>1) or decreases (OR<1).

In the interaction model between IES-R and the significant demographic variable (marital status) for the E/S function, we found that those who live with a partner had greater impact of the pandemic on E/S function in the total score and the avoidance and hyperstimulation domains, but not in the intrusion domain (Table-3).

#### DISCUSSION

This study demonstrated the relation between the COVID-19 pandemic and PTSD, with a negative interaction between IES-R and erectile/sexual function on the Latin American popula-

tion. PTSD was a predictor of sexual dysfunction like in the Letica-Crepulja 2019 study (7). During the COVID-19 pandemic, Fang et al. (2020) also used the IES-R and IIEF-5 questionnaires to evaluate male healthcare professionals. Their findings corroborate with our study by the negative interaction found between them (6).

In addition, among the demographic factors, the participants marital status stood out, demonstrating that individuals who live without partner presented higher prevalence of erectile/sexual dysfunction; while individuals who are living with partner presented higher pandemic impact over erectile/sexual function. We hypothesize that during the COVID-19 pandemic people who live without a partner have greater difficulties in engaging in sexual intercourse, but those who live with their partners may have more impact because they have to stay together at all times, affecting their relationship and, consequently, their sexual lives.

Table 3 - Interaction between the Impact of Event Scale Revised (IES-R) and the significant demographic characteristics for the erectile/sexual function.

Variables	No interaction OR	Principal effects	Interaction term
Variables	(CI 95%)	OR (CI 95%)	OR (CI 95%)
IES-R total score	,		
Marital status	1.62	2.70	0.98
Without partner	(1.34 - 1.95)	(1.80 - 4.07)	(0.97 - 0.99)
IES-R total score	1.02 (1.01 – 1.02)	1.02 (1.01 – 1.03)	
Intrusion domain			
Marital status	1.68 (1.39 – 2.02)	2.30 (1.56 – 3.41)	0.97 (0.95 – 1.01)
Without partner			
Intrusion domain	1.02 (1.01 – 1.03)	1.03 (1.02 – 1.05)	
Avoiding domain			
Marital status	1.63	2.43	0.97
Without partner	(1.35 - 1.97)	(1.69 - 3.50)	(0.94 - 0.99)
Avoiding domain	1.03 (1.02 – 1.04)	1.05 (1.03 – 1.07)	
Hyperarousal domain			
Marital status	1.59 (1.32 – 1.92)	2.79 (1.92 – 4.07)	0.94 (0.92 -0.97)
Without partner			
Hyperarousal domain	1.04 (1.03 – 1.06)	1.07 (1.05 – 1.10)	

Verified by a Multivariate Logistic Regression model

IES-R = Impact of Event Scale - Revised; OD = odds ratio; CI = Confidence Interval

Additionally, it can be harder to engage in moments of sexual activity with their families staying at home all day long.

Schiavi et al. (2020) in their study with females during the COVID-19 pandemic found a lower total FSFI score among women with higher level of education, but in this study no relation with educational level was identified (2).

During the pandemic, Mollaioli et al. interviewed 2,608 sexually active individuals, and they found a prevalence of 18.5% for erectile dysfunction in males and 28.8% for sexual dysfunction in females (19). In our study, it was found in 37.55% of males and 37.37% of females. There was a bigger participation of females, but no differences were found in the E/S function (p<0.000 [CI 0.79-1.22]).

This study did not find any relation between age and the presence of sexual dysfunction, which differs from the studies carried out before the CO-VID-19 pandemic, which found a strong influence of age over erectile dysfunction (20).

FSFI was also used in Schiavi et al. and Yuksel. et al. studies in the COVID-19 pandemic in females. Both observed worse scores compared to data prior to the COVID-19 pandemic (2, 21).

Pennanen-Iire et al. (2020) reported that the stress triggered by the COVID-19 pandemic for long cohabiting times could compromise the couple's sex life, including an increase in anxiety and fear of failing in sexual performance (22). Associated with this, we must consider the limitation of individual space and the difficulty to find moments of intimacy while the family stays at home during the whole time (23).

To our knowledge, this is the first study about sexual function during the COVID-19 pandemic in Latin America. The study was performed online, which facilitated the access to individuals from 17 out of the 20 Latin American countries, allowing for reflection about the reality experienced by the population during the COVID-19 pandemic.

This study compared the male and female population using specific instruments to each population and considering aspects related to the male and female sexual function, such as penetrative vaginal sex and erection, respectively; which the researchers considered a limitation of the used instruments.

Therefore, we emphasize the importance of developing, in future studies, questionnaires that are

more inclusive in relation to non-penetrative sex, masturbation and non-heterosexual orientations. In the same way, to date there are no validated questionnaires for the evaluation of general sexual function in males

Clinical guidelines during the COVID-19 pandemic are being consolidated for Latin America professionals (24) and we believe that this study can have clinical implications that contribute to the knowledge about the COVID-19 pandemic impact over erectile/sexual function of Latin Americans, allowing for future intervention proposals that consider sexual health care in post-pandemic times. A study by Gomes et al. 2021 shows that more quality research and apps are necessary before the widespread use of mobile health technologies (25).

The COVID-19 pandemic and its implications, such as quarantine, labor or wage losses, close familiar interaction with all inhabitants on the domestic ambient, privation of liberties both at home and on the outside, privation of routine activities, fear of the unknown and the repercussions of the disease, limitation of the routine consultations for physicians and other health professionals, double workday for some and idleness for others, among many other aspects may have contributed to the impact on sexual function, drawing a necessary and special attention for the years to come.

More attention is needed for the Latin American population, especially non-heterosexual individuals. Future studies should seek for alternatives in remote solutions and treatments for people whose sexual function was affected by the COVID-19 pandemic and apply it in these times, and after the pandemic ends.

Our study presents limitations that are inherent to online surveys, such as containing information that is not completely understood by the respondents, demanding for internet access and also proficiency in technological resources. Moreover, the propagation of the survey by the researchers' and collaborators' social media may have been biased, since members of other social media may have not been reached. Similarly, since the invitations are open to contact networks, normally those who are more interested and participative tend to answer readily. On the other side, the access through social media can favor larger sample size for online surveys.

It is important to consider that the individual's state prior to the pandemic was not consulted. Furthermore, quarantine conditions may have differed among countries, which can influence the interpretation of results.

## **CONCLUSIONS**

An interaction between the COVID-19 pandemic impact and erectile/sexual function was found. Individuals that do not live with their partners presented higher prevalence of sexual dysfunction. However, the pandemic triggered greater impact over the erectile/sexual function of people who live with a partner.

#### **ABBREVIATIONS**

COVID-19 = Coronavirus disease 2019

E/S = Erectile/sexual

IIEF-5 = Simplified International Index of Erectile Function

**FSFI** = Female Sexual Function Index

PTSD = Post-traumatic stress disorder

IES-R = Impact of Event Scale Revised

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#### **CONFLICT OF INTEREST**

None declared.

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#### APPENDIX - 1

# Impact of the Covid-19 pandemic on people's sexual function

4/2/22, 23:34

Impact of the Covid-19 pandemic on people's sexual function

# Impact of the Covid-19 pandemic on people's sexual function Hello! Welcome!

We are researchers of the Post Graduate Program in Rehabilitation Sciences at the Federal University of Alfenas (PPGCR/UNIFAL-MG) and we would like to invite you to participate in a survey with the aim of assessing the impact of the pandemic by covid -19 about your sexual function. Your participation is free and voluntary and YOUR INFORMATION WILL BE KEPT IN COMPLETE PRIVACY. Please note that you do not need to identify yourself, however, if you want to receive more information on the subject you can leave a contact email.

Questions can be sent to the e-mail: <u>luciana.michelutti@unifal-mg.edu.br</u> (gynecologist - group researcher).

Thank you for your contribution!

\* Required

Informed Consent

#### Impact of the Covid-19 pandemic on people's sexual function

Informed Consent Form
FEDERAL UNIVERSITY OF ALFENAS - UNIFAL / MG

MOTRICITY SCIENCES INSTITUTE

#### GRADUATE PROGRAM IN REHABILITATION SCIENCES

Introduction and objectives: You are being invited to participate in a survey that aims to assess the impact of the covid-19 pandemic on your sexual function. Your participation is voluntary and free, that is, at any time you can withdraw from participation or withdraw your consent, without any penalty. Your data will be kept completely confidential and your answers will be used only for research through reports, bibliographic materials, articles and scientific events.

Study Procedure: During this survey you will answer some questions about your personal data, your health and sexual function through simple questions and standardized questionnaires, using approximately 15 minutes to answer.

Benefits: Your participation is voluntary and free. As a direct benefit you will receive general guidance on sexual function. In addition, you will be able to receive the answer to your questionnaire upon completion. If you want, check the option "Send me a copy of my answers". This work will help the scientific community to better understand if the pandemic could influence the sexual function of individuals and then contribute to future studies and strategies for its promotion and recovery.

Risks and discomforts: There are no direct risks, however, when answering the questionnaire, you may have memories that are not necessarily pleasant related to your sex life, which could bring some embarrassment. To minimize this effect, if it occurs, you will be able to communicate with the researchers responsible for receiving guidance through the email: <a href="mailto:luciana.michelutti@unifal-mg.edu.br">luciana.michelutti@unifal-mg.edu.br</a>

Privacy and security: Your privacy will be guaranteed by the researchers, that is, your data will be kept confidential and your personal information is not requested. Please note that in order to safeguard your privacy as much as possible, we do not ask for a name or other information that identifies you, with the exception of your email and year of birth. All data will be used anonymously when the results are released. You should also provide greater privacy by answering this questionnaire in a place and situation where you feel comfortable and safe.

We thank you in advance for your contribution and participation! You can request your copy at the end of the questionnaires.

Ι.	Do you declare to have read and agreed to the above consent, agreeing to voluntarily participate in this research? *
	Mark only one oval.
	Yes, I agree.
	No, thank you.
Т	o start we need some data and information
2.	Date of birth *

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3.	City/Country *
4.	Marital status *
4.	
	Mark only one oval.
	Single
	Married
	Divorced
	Widower
5.	Study time (years of study) *
	Mark only one oval.
	Study or studied up to 5 years
	Study or studied up to 9 years
	Study or studied up to 13 years
	Study or studied more than 14 years
6.	Family income? *
	Mark only one oval.
	1 to 2 minimum wages
	3 to 4 minimum wages
	+ 4 minimum wages

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7.	Associated diseases *
	Check all that apply.
	Chronic obstructive disease (COPD)
	Diabetes
	Hypertension
	Cancer
	Chronic cough
	Autoimmune disease
	I don't have comorbidities
	Other:
8.	Medicines in use
•	Please skip this question if you do not use medications
9.	Do you practice physical activity? *
	Mark only one oval.
	Yes
	No
	Suspended due to quarantine
Ç.L	in to question 10
J N	ID to ducation to

 $https://docs.google.com/forms/d/14FerD5Hor8L6YqvoM9LBve22iZTp4BfpsQJgev\_IZQk/edit$ 

Impact of the Covid-19 pandemic on people's sexual function

We list below the difficulties that people sometimes have after going through stressful situations. This questionnaire was adapted from the Event Impact Scale -Revised (IES-R). Regarding the memories of COVID-19, please read each item below and then check the option that best corresponds to your stress level, in the last SEVEN DAYS, considering: Pandemic Impact Scale 0 - Not at all 1 - A little by COVID-19 2 - Moderately 3 - Very 4 - Extremely YOUR INFORMATION WILL BE KEPT SECRETLY. 10. 1. Any reminder brought back feelings about it \*

Mark only one oval.

0 1 2 3 4

Not at all \_\_\_\_\_\_ Extremely

11. 2. I had trouble staying asleep \*

Mark only one oval.

12. 3. Other things kept making me think about it. \*

Mark only one oval.

0 1 2 3 4

Not at all \_\_\_\_\_\_ Extremely

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<b>13.</b> 4. I felt irritable and angr	y		>	
---	---	--	---	--

Mark only one oval.

	0	1	2	3	4	
Not at all						Extremely

**14.** 5. I avoided letting myself get upset when I thought about it or was reminded of it. \* *Mark only one oval.* 

	0	1	2	3	4	
Not at all						Extremely

15. 6. I thought about it when I didn't mean to. \*

Mark only one oval.

	0	1	2	3	4	
Not at all						Extremely

16. 7. I felt as if it hadn't happened or wasn't real. \*

Mark only one oval.

	0	1	2	3	4	
Not at all						Extremely

17.	8. I stayed away from reminders of it *						
	Mark only o	one oval	·.				
		0	1	2	3	4	
	Not at all						Extremely
18.	9. Pictures	about i	t poppe	d into n	ny mind	*	
	Mark only o	one oval	·.				
		0	1	2	3	4	
	Not at all						Extremely
19.	10. I was ju			startled	ļ. *		
		0	1	2	3	4	
	Not at all						Extremely
20.	II. Think a			9 <b>*</b>			
		0	1	2	3	4	
	Not at all						Extremely

Impact of the Covid-19 pandemic on people's sexual function

	0	1	2	3	4	
Not at all						Extremely
13. My feeli	ings abo	ut COV	/ID-19 v	were asl	eep *	
Mark only o	one oval					
	0	1	2	3	4	
Not at all						Extremely
14. Find me	e as if yo	u were	feeling	the pan	demic f	unction by COVID-1
Mark only o	one oval					
	0	1	2	3	4	

**24.** 15. I had trouble falling asleep \*

Mark only one oval.

0 1 2 3 4

Not at all \_\_\_\_\_\_ Extremely

Impact of the Covid-19 pandemic on people's sexual function

25. 16. I was invaded by waves of strong feelings related to what happened by COVID-19 \* Mark only one oval. Extremely Not at all **26.** 17. I tried to get everything of the COVID-19 out of my head \* Mark only one oval. 0 Not at all Extremely 18. I had concentration problems \* 27. Mark only one oval. Not at all Extremely

**28.** 19. Things that reminded me of COVID-19 caused physiological reactions such as perspiration, difficulty breathing, nausea or tachycardia. \*

Mark only one oval.

				IBJU	SEX C	OVID: PA	NDEMIC IMPA	СТ	
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29.	20. I dreamed of things related to COVID-19 *								
	Mark only o	one oval	·.						
		0	1	2	3	4			
	Not at all						Extremely		
30.	21. I felt viş	gilant ar	nd on gi	uard *					
	Mark only o	one oval							
		0	1	2	3	4			
	Not at all						Extremely		
31.	22. I tried not to talk about COVID-19 *								
	Mark only o	one oval							
		0	1	2	3	4			
	Not at all						Extremely		
Skip	to question	32							
Pro	ofessional pe	rforman	ice						
32.	Currently,	what is	your pr	ofession	nal areas	<b>*</b>			
	Mark only	one ov	al.						

To health professionals

I work as a health professional

I work in other areas

Skip to question 40

Skip to question 33

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33.	What is your profession? *	
34.	What is your situation at the moment? *	
	Mark only one oval.	
	Working	
	Unemployed	
	Working at home	
	Maintaining activities in call centers	
	Serving only urgent cases	
	Other:	
35.	I'm working on the front line of Covid-19? *	
	Mark only one oval.	
	Yes	
	No	
36.	If so, and you were currently removed, why?  Only for those who answered "yes" in the previous question	
37.	Are you currently with a partner? *	
	Mark only one oval.	
	Yes	
	No	

38.	Regarding sexual activity during the pandemic period. *
	Mark only one oval.
	I maintain my sexual activity normally
	Decreases sexual frequency
	Increased sexual frequency
	I suspended my sexual activity
	I did not and still do not have sexual activity
39.	Do you have any sexual complains? *
	Mark only one oval.
	Never presented
	I have already presented at some point in my life and I have no more
	I currently present
Skip	o to question 53
Ev	aluation sheet
40.	Profession
41.	What is your situation right now? *
	Mark only one oval.
	unemployed
	Employed
	Other:

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42.	How is your work situation currently? *
	Mark only one oval.
	Working from home
	Working normally
	Away
	Other:
43.	If you were away, why?
	Only for those who answered "away" in the previous question
44.	Are you currently with a partner? *
	Mark only one oval.
	Yes
	No
45.	Regarding sexual activity during the pandemic period. *
	Mark only one oval.
	I maintain my sexual activity normally
	Decreased sexual frequency
	Increased sexual frequency
	I suspended my sexual activity
	I did not and still do not have sexual activity

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46.	Do you smoke? *
	Mark only one oval.
	Yes
	◯ No
47.	What is your weight? (approximately) *
40	
48.	What's your height? (approximately) *
49.	How much time in total do you spend exercising for a week (7 days). (Respond approximately in hours).
50.	How long do you stay seated during a normal day of the week? (Respond approximately in hours)
51.	Sexual activity in the last 4 months? *
	Mark only one oval.
	Present
	Absent

Impact of the Covid-19 pandemic on people's sexual function

<b>52.</b> Do you have any sexual complaints? *		
Mark only one	e oval.	
Never p	resented	
I have a	lready presented at some point in my life and I have no more	
I current	tly present	
Skip to question 53		
Sexual health	We need to know what gender is stated on your birth certificate to direct you to	
assessment	the questionnaire	
<b>53.</b> Sex declared or	n your birth certificate *	
Mark only one oval.		
Feminin	e Skip to question 54	
Male	Skip to question 73	
Female Sexual	These questions are about your sexual feelings and responses over the past FOUR WEEKS. Please answer honestly. Your answers will be kept completely confidential.  The following explanations are applied to answer the questionnaire:  Sexual activity: may include caresses, preliminary sexual stimulation, masturbation	
Function Index (FSFI)	and vaginal intercourse.  Sexual intercourse is defined as the penetration (entry) of the penis into the vagina.  Sexual stimulation: includes preliminary sexual stimulation with the partner, auto eroticism (masturbation) or sexual fantasy.	

FOR EACH ITEM, SCORE ONLY AN ANSWER Sexual desire or interest is a feeling that encompasses the desire to have a sexual experience, the receptivity to the partner's sexual initiatives, and thoughts or fantasies about the sexual act.

54.	1. How often did you feel sexual desire or interest? *
	Mark only one oval.
	Almost always or always
	Most times (more than half the time)
	Sometimes (about half the time)
	A few times (less than half the time)
	Almost never or never
55.	2. How would you rate your level (degree) of sexual desire or interest? *
	Mark only one oval.
	Very high
	High
	Moderate
	Low
	Very low or none at all
	al arousal is a sensation with physical and mental aspects. A sensation of heat or vibration may ar in the genitals, lubrication (moisture), or muscle contractions.
56.	3. How often did you feel sexually aroused ("turned on") during sexual activity or intercourse? *
	Mark only one oval.
	No sexual activity
	Almost always or always
	Most times (more than half the time)
	Sometimes (about half the time)
	A few times (less than half the time)

	57.	4. How would you rate your level of sexual arousal ("turn on") during sexual activity or intercourse? *
		Mark only one oval.
		No sexual activity 5 = Very high Very high High Moderate Low Very low or none at all
<b>58.</b> 5. How confident were you about becoming sexually aroused d intercourse? *		5. How confident were you about becoming sexually aroused during sexual activity or intercourse? *
		Mark only one oval.
		No sexual activity
		Very high confidence
		High confidence  Moderate confidence
		Low confidence
		Very low or no confidence

59.	6. How often have you been satisfied with your arousal (excitement) during sexual activity or intercourse? *		
	Mark only one oval.		
	No sexual activity		
	Almost always or always		
	Most times (more than half the time)		
	Sometimes (about half the time)		
	A few times (less than half the time)		
	Almost never or never		
60.	7. How often did you become lubricated ("wet") during sexual activity or intercourse? *		
	Mark only one oval.		
	No sexual activity		
	Almost always or always		
	Most times (more than half the time)		
	Sometimes (about half the time)		
	A few times (less than half the time)		
	Almost never or never		
61.	8. How difficult was it to become lubricated ("wet") during sexual activity or intercourse? *		
	Mark only one oval.		
	No sexual activity		
	Extremely difficult or impossible		
	Very difficult		
	Difficult		
	Slightly difficult		
	Not difficult		

62.	9. How often did you m ain tain your lubrication ("wetness") until completion of sexual activity or intercourse? *	
	Mark only one oval.	
	No sexual activity	
Almost always or always		
Most times (more than half the time)		
	Sometimes (about half the time)	
	A few times (less than half the time)	
	Almost never or never	
63.	10. How difficult was it to maintain your lubrication ("wetness") until completion of sexual activity or inter- course? *	
	Mark only one oval.	
	No sexual activity	
	Extremely difficult or impossible	
	Very difficult	
	Difficult	
	Slightly difficult	
	Not difficult	

64.	. II. When you had sexual stimulation or intercourse, how ofte n did you reach orgasm (climax		
	Mark only one oval.		
	No sexual activity		
	Almost always or always		
	Most times (more than half the time)		
	Sometimes (about half the time)		
	A few times (less than half the time)		
	Almost never or never		
65.	12. When you had sexual stimulation or intercourse, how difficult was it for you to reach orgasm (climax)? *		
	Mark only one oval.		
	No sexual activity		
	Extremely difficult or impossible		
	Very difficult		
	Difficult		
	Slightly difficult		
	Not difficult		

	13. How satisfied were you with your ability to reach orgasm (climax) during sexual activity or intercourse? *		
Mark only one oval.			
No sexual activity			
Very satisfied			
Moderately satisfied			
About equally satisfied and dissatisfied			
Moderately dissatisfied			
Very dissatisfied			
<b>67.</b> 14. How satisfied have you been with the amount of emotional closeness during between you and your partner? *	sexual activity		
Mark only one oval.			
No sexual activity			
Very satisfied			
Moderately satisfied			
About equally satisfied and dissatisfied			
Moderately dissatisfied			
Very dissatisfied			
<b>68.</b> 15. How satisfied have you been with your sexual relationship with your partner	? *		
Mark only one oval.			
Very satisfied			
Moderately satisfied			
About equally satisfied and dissatisfied			
Moderately dissatisfied			
Very dissatisfied			

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6	59.	9. 16. How satisfied have you been with your overall sexual life? *		
		Mark only one oval.		
		No sexual activity Very satisfied		
		Moderately satisfied		
		About equally satisfied and dissatisfied		
		Moderately dissatisfied		
7	70.	17. How ofte n did you experience discomfort or pain during vaginal penetration? *		
		Mark only one oval.		
		Did not attempt intercourse I		
		Almost always or always		
		Most times (more than half the time)		
		Sometimes (about half the time)		
		A few times (less than half the time)		
		Almost never or never		
7	<sup>7</sup> 1.	18. How ofte n did you experience discomfort or pain follow- ing vaginal penetration? * Mark only one oval.		
		Did not attempt intercourse		
		Almost always or always		
		Most times (more than half the time)		
		Sometimes (about half the time)		
		A few times (less than half the time)		
		Almost never or never		

72.	19. How would yo penetration? *	u rate your level (degree) of discomfort or pain during or following vaginal
	Mark only one o	val.
	Oid not atte	empt intercourse
	Very high	
	High	
	Moderate	
	Low	
	Very low or	none at all
Skip	o to question 78	
Internations index of Erectile Function (IIEF)		These questions are about your feelings and sexual responses. Please answer honestly. Your answers will be kept in COMPLETE CONFIDENTIALITY. At the past seven days:
FOR	EACH ITEM, JUST	Γ ONE RESPONSE
73.	1. How do you cor	nsider your confidence in being able to have and maintain an erection? *
	Mark only one o	val.
	Very low	
	Low	
	Moderate	
	High	
	Very high	

74.	4. 2. When you had erections with sexual stimulation, how often were your erections hard enough for penetration? *		
	Mark only one oval.		
	Almost never or never		
	A few times (less than half the time)		
	Sometimes (about half the time)		
	Most times (more than half the time)		
	Almost always or always		
75.	3. During sexual intercourse, how often were you able to maintain your erection after penetrating / entering your partner? *		
	Mark only one oval.		
	Almost never or never		
	A few times (less than half the time)		
	Sometimes (about half the time)		
	Most times (more than half the time)		
	Almost always or always		
76.	4. During sexual intercourse, how difficult was it for you to maintain your erection until the end of the relationship? *		
	Mark only one oval.		
	Extremely difficult		
	Very difficult		
	Difficult		
	Slightly difficult		
	Not difficult		

	Mark only one oval.	
	Almost never or never	
	Affinist flever of flever  A few times (less than half the time)	
	Sometimes (about half the time)	
	Most times (more than half the time)	
	Almost always or always	
Skip	to question 78	
	ally, we'd like to know if you think Covid-19 Pandemic has impacted your ual function	Consider: 0 - Not at al 1 - A little 2 - Little 3 - Moderately 4 - Very 5 - Extremely
8.	From zero (not at all) to five (extremely), how would you rate Covid-19's impact of Pandemio on your sexual function?	
	Mark only one oval.	
	0 1 2 3 4 5	
	Not at all Extremely	
<b>'</b> 9.	Would you like to receive more information on the subject? If so, leave a cont	act e-mail here.
79.	Would you like to receive more information on the subject? If so, leave a cont	act e-mail here.
79.	Would you like to receive more information on the subject? If so, leave a cont	act e-mail here.
79.	Would you like to receive more information on the subject? If so, leave a cont	act e-mail here.

Impact of the Covid-19 pandemic on people's sexual function

Thank you for participating!



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