

Suspected COVID-19 flu-like syndrome in men who have sex with men and have been involved in casual sex

Síndrome gripal suspeita de COVID-19 em homens que fazem sexo com homens e se envolveram em sexo casual
Síndrome gripal sospecha de COVID-19 en hombres que tienen sexo con hombres y se involucraron en sexo ocasional

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ABSTRACT

Objective: To evaluate the presence of flu-like syndrome suggestive of COVID-19 in men who have sex with men (MSM) and engaged in casual sex during a period of social isolation.

Method: National epidemiological survey, applied in April and May 2020, by adaptation of Respondent Drive Sampling. **Results:** 1,337 MSM participated in the survey, of which 514 (38.4%) had fever associated with another sign or symptom of flu-like syndrome. Social, demographic characteristics, sexual practices and activities during the period of social isolation were statistically associated with the presence of flu-like syndrome. There was a statistical difference ($p < 0.001$) in the average of partners between those who had signs and symptoms of flu-like syndrome (3.5) and those who did not (1.7). **Conclusion:** Evidence of signs and symptoms indicative of flu-like syndrome suggestive of COVID 19 in Brazilian MSM who were involved in casual sex during the period of social isolation.

Descriptors: Men; Homosexuality, Male; Coronavirus; Pandemics; COVID-19.

RESUMO

Objetivo: Avaliar a presença de síndrome gripal suspeita de COVID-19 em homens que fazem sexo com homens (HSH) e se envolveram em sexo com parceiro casual durante período de distanciamento social. **Método:** Inquérito epidemiológico, de abrangência nacional, aplicado em abril e maio de 2020, por adaptação do *Respondent Drive Sampling*. **Resultados:** 1.337 HSHs participaram da pesquisa, dos quais 514 (38,4%) tiveram febre associada a outro sinal ou sintoma de síndrome gripal. Características sociais, demográficas, práticas e atividades sexuais durante o período de distanciamento social foram estatisticamente associadas à presença de síndrome gripal. Houve diferença estatística ($p < 0,001$) na média de parceiros entre aqueles que tiveram sinais e sintomas de síndrome gripal (3,5) e aqueles que não os tiveram (1,7). **Conclusão:** Evidencia-se ocorrência de sinais e sintomas indicativos de síndrome gripal sugestiva de COVID19 em HSHs brasileiros que se envolveram em sexo casual durante o período do distanciamento social.

Descritores: Homens; Homossexualidade Masculina; Coronavírus; Pandemia; COVID-19.

RESUMEN

Objetivo: Evaluar la presencia de síndrome gripal sospecha de COVID-19 en hombres que tienen sexo con hombres (HSH) y se involucraron en sexo con pareja ocasional durante distanciamiento social. **Método:** Averiguación epidemiológica, de abarcamiento nacional, aplicado en abril y mayo de 2020, por adaptación del *Respondent Drive Sampling*. **Resultados:** 1.337 HSHs participaron de la investigación, de los cuales 514 (38,4%) tuvieron fiebre relacionada a otra señal o síntoma de síndrome gripal. Características sociales, demográficas, prácticas y actividades sexuales durante el distanciamiento social han estadísticamente relacionadas a la presencia de síndrome gripal. Hubo diferencia estadística ($p < 0,001$) en la media de parejas entre aquellos que tuvieron señales y síntomas de síndrome gripal (3,5) y aquellos que no los tuvieron (1,7). **Conclusión:** Se evidencia ocurrencia de señales y síntomas indicativos de síndrome gripal sugestivo de COVID-19 en HSHs brasileños que se involucraron en sexo ocasional durante el período del distanciamiento social.

Descritores: Hombres; Homossexualidad Masculina; Coronavirus; Pandemia; COVID-19.

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INTRODUCTION

At the end of December 2019, the world became aware of the existence of the new coronavirus, SARS-CoV-2 - Severe Acute Respiratory Syndrome Coronavirus 2, the virus that caused the COVID-19 pandemic⁽¹⁾. Eight months later, the disease has killed more than 865,000 people around the world, 124,000 of them in Brazil alone, by the end of August⁽²⁾. As there are not enough inputs for diagnostic case testing in the country, which has one of the lowest test rates in the world, health agencies are required to make case definitions (suspect/confirmed/disposed) less accurate⁽³⁻⁴⁾.

In general, in Brazil, the definition of a suspected case of COVID-19 can be based on signs and symptoms of flu-like syndrome (FS) and severe acute respiratory syndrome (SARS), with three possibilities of confirmation, according to the Brazilian Ministry of Health⁽⁵⁾: 1. By clinical-epidemiological criteria: case of FS or SARS with clinical confirmation associated with anosmia or acute aging; 2. By clinical-epidemiological criteria: case of FS or SARS with a history of close contact or in an area of sustained transmission (community), in the 14 days before the appearance of signs and symptoms with a confirmed case for COVID-19; 3. By clinical-imaging criteria: case of FS or SARS or death from SARS that could not be confirmed by laboratory criteria and that presents suggestive tomographic alterations.

Because it is considered, until then, the greatest health challenge of the 21st century, due to the high rates of transmissibility and the deficient capacity of mitigation and mass testing, social isolation is being pointed out as the most recommended and adopted mitigation measure to reduce the probability of the infectious agent transmitting among the population, thus delaying the quantity of those infected by the disease⁽⁶⁾. However, its adhesion has oscillated negatively, especially in Brazil⁽⁷⁾.

A possible explanation for this can be found in the finding that social isolation has generated impacts on the physical, psychological and sexual health of individuals⁽⁸⁻⁹⁾. However, such repercussions are felt disproportionately according to population groups, and in the case of vulnerable people such as the group of men who have sex with men (MSM), who are historically marginalized and have their sexual practices rejected and socially limited to invisible/unseen places, the need for peer and similar social support may be more important and necessary⁽¹⁰⁻¹¹⁾, this is why failure to adhere completely to social isolation measures should be studied and better elucidated.

Little is known about the real role and impact of sexual relations with casual partners in the current pandemic situation of COVID-19. Studies⁽¹¹⁻¹²⁾ show that the continuous state of partial detachment can make people more likely to neglect isolation in pursuit of interaction or sexual pleasure. In this regard, a multicenter study conducted in Portugal and Brazil in 2020 showed that 53% of MSM have difficulty complying with social isolation measures, participate in sex meetings without condoms (30.4%), with multiple partners (15.8%), and under drug use (Chemsex) (39%)⁽¹²⁾.

Casual sexual relations with one or multiple partners can be an important route of contamination and transmission of the viruses that cause COVID-19⁽¹²⁻¹³⁾, since they involve the

meeting of two or more people for a considerable time in an enclosed space. In order to raise associations, not yet tested in the literature, between potential sexual exposure to SARS CoV-2 through casual sex and the development of signs and symptoms of flu-like syndrome suggestive of COVID-19, we developed this study.

OBJECTIVE

To evaluate the presence of flu-like syndrome suggestive of COVID-19 in men who have sex with men (MSM) and engaged in casual sex during a period of social isolation.

METHODS

Ethical aspects

This is a subproject of the multi-centric research "In_PrEP Brazil/Portugal", originally approved by the Research Ethics Committee of the New University of Lisbon and the Ribeirão Preto School of Nursing in 2019. Due to the addition of questions, an amendment was presented and approved.

Design, time and place of study

The sub-project "40TENA" was a multi-center online epidemiological survey applied in all 26 Brazilian states. The research project and the presentation of this manuscript were guided by the STROBE tool and The Checklist for Reporting Results of Internet E-Surveys (CHERRIES)⁽¹⁴⁾. There was a dynamic data collection in April and May 2020 while the Brazilian states were experiencing restrictive sanitary measures that requested social isolation and distancing, in addition to quarantine to prevent the spread of the virus.

Population or sample

The sample consisted of 2,646 participants recruited by adapting the Respondent Drive Sampling (RDS) method to the virtual environment. In this method, the participant him/herself is responsible for recruiting other individuals of the same category as his/her, using his/her social networks. To meet the method's requirements, we selected 15 MSM with different characteristics regarding: location in the country (divided according to the five regions); race/color: white and not white; age: young, adult and elderly; and level of education. These were the first participants and were called seeds. 1,407 MSM were eligible to participate in the study because they had sex with a casual partner. Of these, 70 were excluded because they had already been tested for COVID-19, and the final sample was fixed at 1,337 participants (Figure 1).

Study protocol

Each participant received the link of the survey and was guided to invite more MSM from their social network until a significant sample was obtained. The seeds were identified through two geolocation-based meeting applications (Grindr and Hornet), by direct chat with online users.

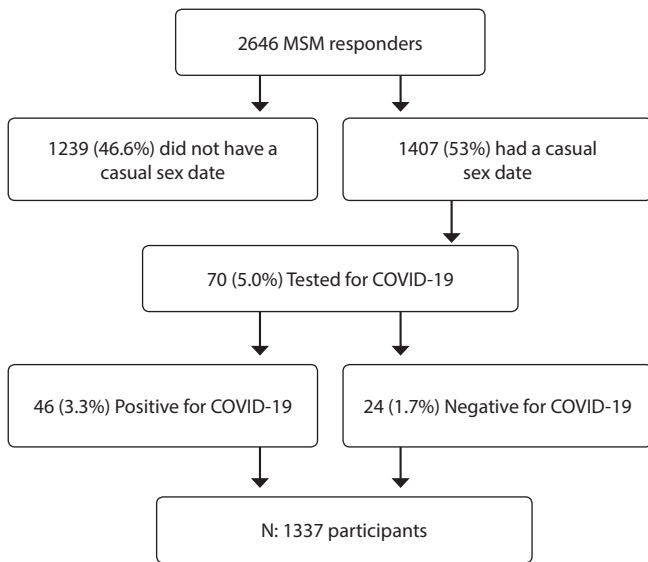


Figure 1 – Participant selection flowchart

The researchers also used the Facebook social network drive, targeting the population of MSM aged 18 to 60 (age limit imposed by Facebook), through a fixed post on the official survey page (<https://www.facebook.com/taafimdeque/>) and accompanied by an electronic link, which provided access to the Free and Informed Consent Term and the survey questionnaire. We included only individuals who identified themselves as male, cisgender or transgender, 18 years of age or older and resident in Brazil.

The instrument used for data collection was prepared by the researchers, who considered the variables of interest for the research and characterization of the participants, and validated as to form and content by a group of experts in the theme and method. It was divided into sections ranging from socio-demographic information to issues of behavior and sexual practices common in times of non-pandemic as well as in the period of distance, social isolation and/or quarantine.

The data collection form was hosted on a website and only allowed one response per IP (internet protocol), for security reasons. It was divided into sections ranging from socio-demographic information to mental health, sexual and sexuality issues in the period of estrangement, social isolation and or quarantine.

Analysis of results and statistics

In the context of COVID-19, according to the orientation of the Brazilian Ministry of Health⁽⁵⁾, diagnosis should be suspected in patients with fever and/or signs/symptoms of low influenza disease, e.g.: cough and dyspnea, who reside or have been in territory with sustained/community transmission of COVID-19. Following these recommendations, we define a “suspected case of flu-like syndrome” as an individual with acute respiratory symptoms, characterized by a fever or febrile sensation, even if reported, accompanied by cough OR sore throat OR runny nose OR breathing difficulty.

We defined “sex with a casual partner” or simply “casual sex” as a face-to-face sexual activity (oral or penetrative sex) with a new or unknown partner who was outside the place where he

or she was staying. Thus, the direct question was asked: “Since the social isolation/looseness was proposed in Brazil, have you had sex with a new or unknown partner who is outside the place where you are sheltered, or have you moved to find this partner?”.

The data was analyzed with the help of the Statistical Package for the Social Sciences (SPSS) for Windows, version 22.0. Descriptive and univariate analyses were performed. The normality of the data was evaluated by the Shapiro-Wilk test, applied to the numerical variables. In the case of categorical variables, the associations were tested using Fisher’s exact chi-square test, and the significance level was set at ≤ 0.05 , with a 95% confidence interval. In this statistical model, it was adopted as a binary outcome (yes or no) the suspicion of flu-like syndrome, that is, any individual who presented fever or feverish sensation accompanied by any of the signs and symptoms investigated, namely: tiredness or fatigue; dyspnea or respiratory discomfort; sore throat and cough.

The Student t-test was used to compare means between individuals classified as a suspect case (yes) and those who were not classified as a suspect case of RS.

RESULTS

There were 1,337 Brazilian MSM who had casual sex during the COVID-19 pandemic. The predominant age group was 21 to 30 years old (69.5%), living in metropolitan regions (75.2%), single (72.2%). The majority (96.3%) reported that they had been practicing some kind of social distancing (social isolation; social distancing/Staying at home or quarantine) for more than 30 days (74.9%), with a perception of a high impact of social isolation on their daily activities (44.3%).

By means of bivariate statistics, we tested the association between the characteristics of the sample and the presence of signs and symptoms of flu-like syndrome. The following were statistically associated: Age, Living in a metropolitan area, Duration of social isolation, Perceived impact of social isolation, Sexual practices (Type of partner; Type of relationship; and Living with the sexual partner); and Sexual activity during the period of social isolation (Search for paid sex; Sexual relationship, simultaneously, with two or more partners; Sexual relationship under the effect of licit or illicit substances; Sexual relationship without protection, whether active and/or passive).

Table 3 highlights the comparison of mean age and number of sexual partners during the period of social isolation from the COVID-19 pandemic, with the presence of flu-like syndrome signs and symptoms, and shows that there was a statistical difference ($p < 0.001$) in the mean number of partners between those who had flu-like syndrome signs and symptoms (3.5) and those who did not (1.7).

Table 1 – Social and demographic characterization of sexual practices and signs and symptoms of flu-like syndrome in men who have sex with men and had casual sex during a period of social isolation from the COVID-19 pandemic, Brazil, 2020 (N = 1,337)

Variables	n	%
Social and demographic characterization		
Gender identity		
Cisgender man	1.333	99.7
Transgender man	4	0.3

To be continued

Table 1

Variables	n	%
Age		
18-20 years	68	5.1
21-30 years	930	69.5
31-40 years	172	12.9
41-50 years	111	8.3
> 50 years	56	4.2
Resides in metropolitan area/large centers?		
Yes	1005	75.2
No	332	24.8
Current relationship type		
Single	965	72.2
In a polyamorous relationship	48	3.6
In a fixed relationship	324	24.2
Who do you usually have sex with?		
Casual partner	971	72.6
Casual/fixed partners	215	16.1
Fixed partner	151	11.3
Are you living with your sexual partner?		
Yes	156	42.7
No	209	57.3
Are you in social isolation?		
Yes	850	63.6
Partially	438	32.7
No	49	3.7
Duration of the current social isolation		
Less than 30 days	294	22
Between 30 and 45 days	765	57.2
More than 45 days	237	17.7
I am not in social distancing	41	3.1
How do you rate the impact of social isolation in your life?		
High impact	593	44.3
Medium impact	561	42
Low impact	183	13.7
Partnerships and sexual activities during periods of social isolation		
Number of partners		
1	456	34.1
2 to 3	762	57
> 3	119	8.9
Paid for sexual relations		
Yes	59	4.4
No	1.278	95.6
Orgy/Menage (Sexual intercourse, simultaneously, with two or more people)		
Yes	385	28.8
No	952	71.2
Chemsex (Sexual intercourse under the effect of licit or illicit substances)		
Yes	942	70.5
No	395	29.5
Sexual intercourse without condom use?		
Yes	533	39.9
No	804	60.1
Signs and symptoms of flu-like syndrome presented in the period of social isolation		
Fever		
Yes	516	38.6
No	821	61.4
Cough		
Yes	781	58.4
No	556	41.6
Sore throat		
Yes	776	58
No	561	42
Tiredness or fatigue		
Yes	378	28.3
No	959	71.7

To be continued

Table 1 (concluded)

Variables	n	%
Dyspnea/Respiratory discomfort		
Yes	479	35.8
No	858	64.2
At least one sign/symptom		
Yes	790	59.1
No	547	40.9
Fever associated with another sign/symptom of flu-like syndrome		
Yes	514	38.4
No	823	61.6

Table 2 – Bivariate analysis of factors associated with the presence of signs and symptoms of flu-like syndrome in men who have sex with men and had casual sex during the period of social isolation by the COVID-19 pandemic - Brazil, 2020 (n = 1,337)

Factors of interest	Presence of signs and symptoms of flu-like syndrome				p value
	Yes		No		
	n	%	n	%	
Age (years)					< 0,001
18-20	17	25,0	51	75,0	
21-30	392	42,2	538	57,8	
31-40	63	36,6	109	63,46	
41-50	30	27,0	81	73,03	
More than 50 years	12	21,4	44	78,6	
Gender Identity					0,305*
Cisgender man	514	38,6	819	61,4	
Transgender man	-	-	4	100	
Resident in metropolitan area/large centers					< 0,001
Yes	427	42,5	578	57,5	
No	87	25,2	245	73,8	
Is social distancing					0,515*
Yes	330	38,8	520	61,2	
Partially	169	38,6	269	61,4	
No	15	30,6	34	69,4	
Duration of the current social isolation					< 0,001
Less than 30 days	104	35,4	190	64,6	
Between 30 and 45 days	270	35,3	495	64,7	
More than 45 days	126	53,2	111	46,8	
I'm not distancing myself	14	34,1	27	65,9	
Perceived impact of social isolation					< 0,001
Low impact	89	48,6	94	51,4	
Medium impact	151	26,9	410	73,1	
High impact	274	46,2	319	53,8	
Sexual practices					< 0,001
Type of partner					
Casual partner	427	44,0	544	56,0	
Casual/fixed partners	69	32,1	146	67,9	
Fixed partner	18	11,9	133	88,1	
Current relationship type					< 0,001
Single	425	44,0	540	56,0	
In a polyamorous relationship	15	31,3	33	68,8	
In a fixed relationship	74	22,8	250	77,2	
Living with your sexual partner					0,007
Yes	26	16,7	130	83,3	
No	60	28,7	149	71,3	
Sexual activity in the period of social isolation due to COVID-19					
Paid for sexual relations	42	71,2	17	28,8	< 0,001
Had sex, simultaneously, with two or more people	182	47,3	203	52,7	< 0,001
Had sexual intercourse under the effect of licit or illicit substances	395	41,9	547	58,1	< 0,001

To be continued

Table 2 (concluded)

Factors of interest	Presence of signs and symptoms of flu-like syndrome				p value
	Yes		No		
	n	%	n	%	
Had sex without a condom	297	55,7	236	44,3	<0,001
Amount of partners during the period of social withdrawal					< 0,001
1	67	14,7	389	85,3	
2-3	343	45,0	419	55,0	
> 3	104	87,4	15	12,6	

Table 3 – Comparison of mean age and number of sexual partners during the period of social isolation from the COVID-19 pandemic, with the presence or absence of signs and symptoms of flu-like syndrome - Brazil, 2020 (N = 1,337)

Factors of interest	Presence of signs and symptoms of flu-like syndrome		
	Yes	No	p value*
	Average (SD)	Average (SD)	
Ages (years)	29.92 (6.3)	30.54 (8.7)	0.165
Amount of partners during the period of social isolation	3.5 (3.4)	1.7 (0.9)	<0.001

Note: *Test t the Student.

DISCUSSION

The presence of signs and symptoms of flu-like syndrome suggestive of COVID-19 in men who have sex with men (MSM) and engaged in casual sex during a period of social isolation due to the pandemic in Brazil was significant and associated with social, demographic characteristics, practices and sexual activities over this time. In this sense, this research is pioneering in testing the association between potential exposure to SARS-CoV-2 through sex with a casual partner and the development of signs and symptoms of flu-like syndrome characteristic of COVID-19. Although the number of MSM who can be indicated as suspected cases of COVID-19 has been high (38.3%), we believe that this finding is still considerably undersized because asymptomatic people seem to be responsible for about 40% to 45% of SARS-CoV-2 infections (15-16) and may vary substantially according to age group.

As evidenced in our findings, age was associated with the presence of signs and symptoms of COVID-19, reinforcing the impact and influence of age groups in the unfolding of the pandemic. Specifically regarding young people and young adults, the most prevalent group in this study (42.2%), there are already reports pointing them as drivers of virus-carrying pathogens⁽¹⁷⁾ due to the low adherence to virus containment and mitigation measures and low symptomatology rates. According to a review study, infected people who remain asymptomatic play a significant role in the ongoing pandemic, but their relative number and effect still remain uncertain⁽¹⁸⁾.

Some characteristics of COVID-19 make it difficult to manage and confront the disease. In general, the incubation period, time between exposure to the virus or infection and the onset of symptoms of COVID-19, is on average 5 to 6 days, and can reach up to 14 days⁽¹⁹⁾. The most common symptoms are fever ($\geq 37.8^\circ\text{C}$), cough, dyspnea, myalgia and fatigue, which are widely

reported in our study, with the majority presenting more than one of these symptoms, although commonly mild. Furthermore, the accuracy of the laboratory methods depends on the method used, time of illness and viral load, which makes the final diagnosis more complicated⁽²⁰⁾.

We were also struck by the fact that the data were collected during the period of the pandemic when the COVID-19 case curve in Brazil was on the rise and, as a result, there were a high number of new cases and deaths. However, the data revealed a scenario of continued sexual practices (casual, drug-using, unprotected, group sex) by MSM at levels similar to those recorded in studies slightly prior to the pandemic⁽²¹⁻²³⁾, suggesting that this scenario may have worsened in subsequent months.

The high⁽²⁴⁻²⁵⁾ number of partners, especially those who manifested signs and symptoms, caused amazement. Engaging in sex with a casual partner in times of coronavirus implies having contact with someone with an unknown history of exposure and outside their "place of isolation"⁽²⁶⁾. If this meeting was held with more than one partner and involved drug use, the adoption of SARS-CoV-2 prevention measures may have been even more hindered^(24,26). This finding is corroborated by the statistical association between the presence of signs and symptoms and quantitative partners.

The increase in levels of anxiety and stress caused by the rupture of socio-affective networks is intensified by apparent phenomena such as the lack of social interaction, entertainment, leisure, or loneliness and boredom. These factors have a great influence on the behavior of the MSM population⁽²⁷⁻²⁸⁾ during the pandemic context and should also be taken into consideration. Associated, they can constitute complicating agents for the prevention and control of the disease, since the political actions in health aimed at this population are considerably weak in much of the global scenario⁽²⁹⁾.

It is relevant to mention that this is a study carried out in a Latin American country that has been facing several obstacles in the advancement of public policies directed at the LGBTQIA+ population^(24,26,30-31). This scenario, which is permeated by LGBTQIA+ institutionalized phobia, may compromise health protection, since, in the absence of proper and safe apparatuses, MSM may be resorting to resources and practices that expose them to SARS-CoV-2.

In addition, there were no institutional health educational actions in Brazil that would produce alternatives, strategies and/or measures aimed at sexual practices and behaviors of MSM in order to support them in addressing the impacts generated by the pandemic within this dimension of human life. Thus, the need for the development of governmental actions focused on harm reduction is emphasized, considering that, for various reasons, the results revealed that MSM are maintaining the practice of casual sex during the presence of the epidemic course of COVID-19 in Brazil.

Study limitations

In addition to the caveats already presented, this research has a number of limitations that must be pointed out. First, the study was conducted only online, with self-reported information, and it

is not possible to check their veracity. Secondly, the method of data collection makes it difficult to establish causal relationships, because it is not known for sure if the signs and symptoms began after or before casual sex. Although this may be pointed out as a limitation, simple contact with another person in the presence or recurrence of FS signs and symptoms is relevant since presenting IS signs and symptoms before casual sex may indicate a possible partner infection, while presenting IS signs and symptoms after casual sex may indicate partner infection. Finally, we were also unable to analyze in this study the recurrence of casual sex and its implications.

Contributions to Nursing and Public Health

Based on this argumentative logic, it emphasizes the need to direct the attention of health professionals, such as those in Nursing, to the appreciation of behavioral and relational aspects, which involve the dimensions of human sexuality, together with the clinical and assistance practice in the recognition of signs and symptoms and risk factors associated with COVID-19. It should be considered that whether or not to adhere to the health measures

that determine social detachment, and consequently lead to the prohibition of sexual encounters during the pandemic, is not just a question and/or logic of individual choice, but a multiplicity of factors that should be taken into consideration regarding the production of health care and Nursing, in the search to overcome stigma, blame and discrimination of sexual and gender minority groups.

CONCLUSION

Our findings show the occurrence of signs and symptoms indicative of flu-like syndrome suggestive of COVID-19 in Brazilian MSM who engaged in casual sex during the period of social isolation, with influence on the number of partners, which was proportionately higher in those who presented signs and symptoms.

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