



# Assessing the prevalence of depressive symptoms among men who have sex with men and transgender women during the COVID-19 outbreak in Mexico: A Latent Class Analysis

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## Background

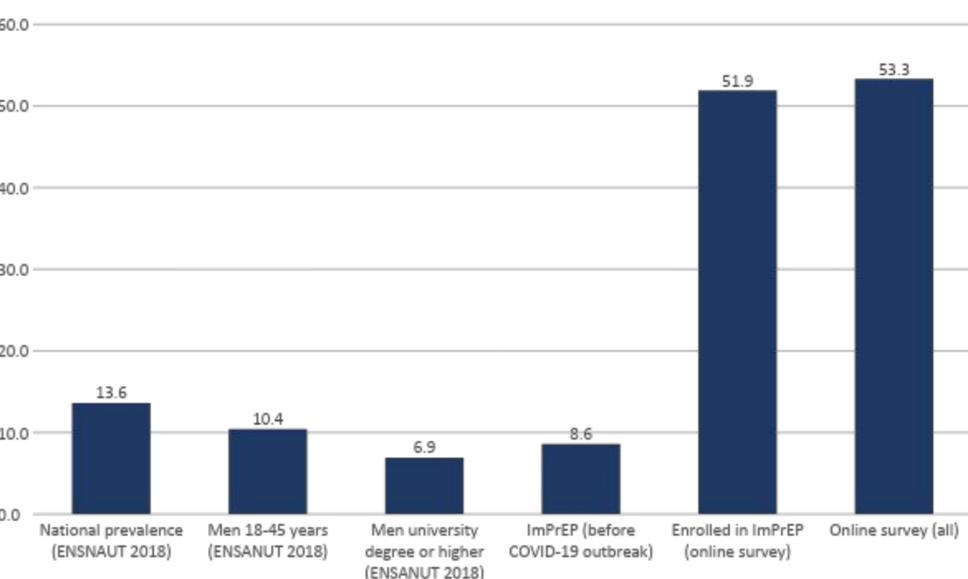
Recent evidence suggests that the widespread outbreak of COVID-19 has already triggered psychological distress and symptoms of mental illness<sup>1-3</sup>. The evidence on this topic remains limited in Latin American countries, particularly in Mexico. There is a severe lack of knowledge about what impact COVID-19 will have on the mental health of more vulnerable populations such as MSM and TGW and the effect of the COVID-19 pandemic and the mitigation strategies on the health status of these groups. To contribute in filling this gap we assess the prevalence of depressive symptoms (DS) and explore the association with characteristics related to the COVID-19 pandemic such as job loss or risk of acquiring COVID-19.

## Methods

Between April 20 to 27, 2020 we conducted an online survey among men who have sex with men (MSM) and transgender women (TGW) assessing the presence of DS using the Center for Epidemiological Studies Depression Scale (CESD-10); results were compared with previously self-reported DS and national data. We applied latent class analysis (LCA) to identify classes of participants with similar COVID-19 related characteristics and logistic regression to assess the correlation between DS and class.

## Results

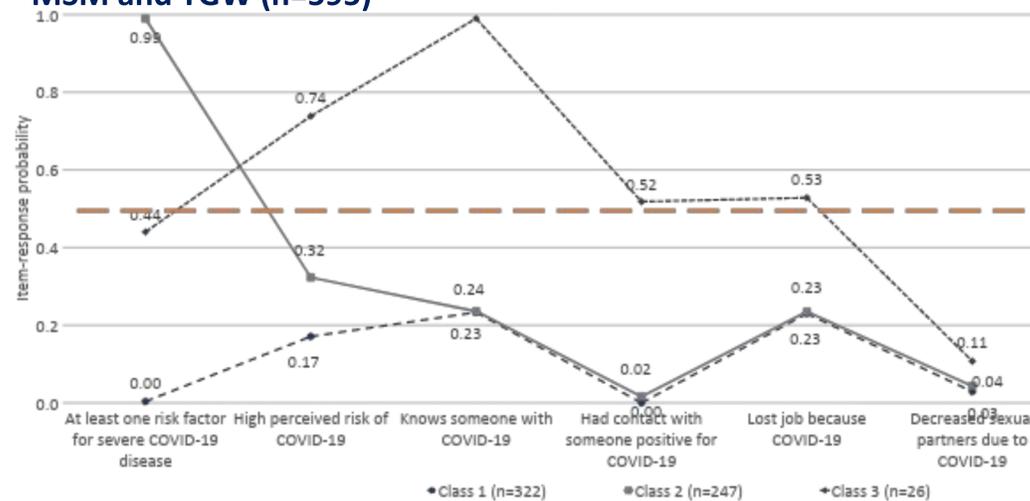
**Figure 1. Prevalence of depressive symptoms among online survey participants compared with Mexico's national prevalence.**



**Table 1. Demographic characteristics of participants with CESD-10 significant depressive symptoms (n=317) and without significant depressive symptoms (n=278)**

Variable	No DS n=278	DS n=317	Total n=595	P value
<b>Demographics</b>				
Education				
Less than university	38	62	100	0.059
University degree of higher	48	512	560	
Age				
18-27 years	36	64	100	0.002
28-36 years	48	52	100	
>36 years	57	43	100	
State of residence				
Lives in Mexico City	43	57	100	0.004
Lives in other state of Mexico	56	44	100	
Social support				
Without any social support	32	67	99	0.030
At least one type social support	46	54	100	
Both types of social support	50	50	100	
Gender				
Male	47	53	100	0.147
Transgender women	29	71	100	
Enrolled in ImPrEP study				
Enrolled	48	52	100	0.141
Not enrolled	40	60	100	

**Figure 2. Latent class analysis item-response for the three-class model of MSM and TGW (n=595)**

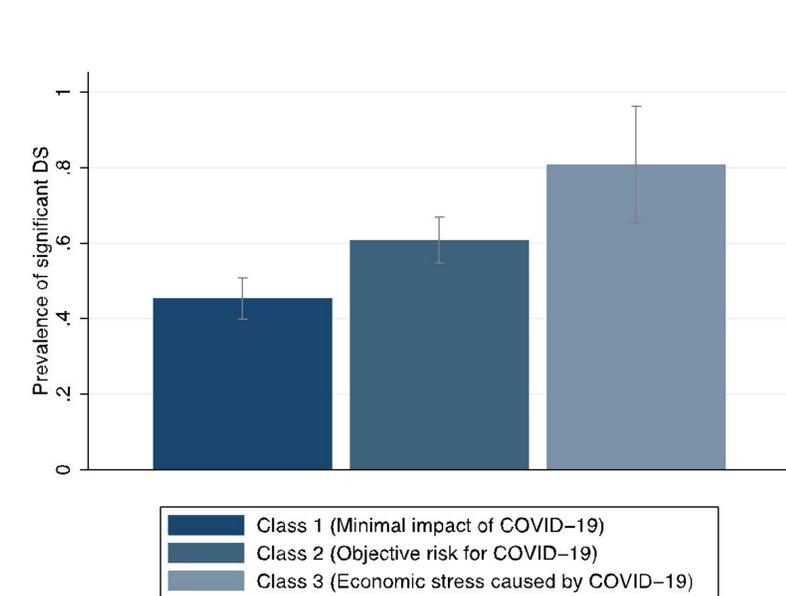


**Table 2. Odds ratios from logistic regression models identifying associations of latent class assignment by posterior probability with significant depressive symptoms**

Variables	Model <sup>a</sup>	
	1	2
<b>Class of COVID-19 effects</b>		
Class 1 (minimal impact of COVID-19)	Ref	Ref
Class 2 (objective risk for COVID-19)	1.86*** (1.331 - 2.610)	1.88*** (1.323 - 2.660)
Class 3 (economic stress caused by COVID-19)	5.06*** (1.863 - 13.758)	4.98*** (1.795 - 13.830)
Observations	595	595

95% CI in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1  
<sup>a</sup>Model 1 shows bivariate OR; Model 2 shows OR controlling for demographic characteristics

**Figure 3. Prevalence of significant DS by COVID-19 effect class**



## Conclusions

- We documented an increase in the prevalence of DS from 8.6% before the COVID-19 pandemic to 51.9% during the first month of the sheltering.
- Significant DS were more common among the youngest, those living in Mexico City, and those without any social support.
- We identified three classes based on LAC posterior probabilities. Among those more deeply touched by the COVID-19 pandemic, the odds of having DS were significantly higher, compared with those in class 1 (OR 4.98, 95% CI 1.795-13.830).
- Our findings suggest high levels of depression among MSM and TGW in Mexico during the COVID-19 pandemic and highlight the need for the provision of targeted psychological interventions to minimize the impacts of COVID-19 on the mental health.

## References

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3. Tang W, Hu T, Hu B, Jin C, Wang G, Xie C, et al. Prevalence and correlates of PTSD and depressive symptoms one month after the outbreak of the COVID-19 epidemic in a sample of home-quarantined Chinese university students. *J Affect Disord*. 2020