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► Ansiedad y depresión desarrollada durante la pandemia de COVID-19 en México

ANXIETY AND DEPRESSION DEVELOPED DURING THE COVID-19 PANDEMIC IN MEXICO¹

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RESUMEN

Estudio observacional, transversal y descriptivo en 850 individuos residentes en México para determinar el grado de ansiedad y depresión. Los participantes respondieron un cuestionario en línea con preguntas relacionadas con el estilo de vida, la escala GAD-7 y PHQ-9. Los participantes que cumplieron con el límite clínico para depresión tuvieron los siguientes factores significativos: entre 15 y 29 años de edad ($OR = 11.187$, $p = 0.0002$), entre 30 y 49 años ($OR = 4.134$, $p = 0.0262$), mujer ($OR = 2.033$, $p = 0.0040$) y estilo de cuarentena ($OR = 1.850$, $p = 0.0160$). Para corte clínico de ansiedad, los factores significativos fueron tener entre 15 y 29 años ($OR = 3.326$, $p = 0.0303$), ser mujer ($OR = 2.994$, $p = 0.0001$) y el estilo de cuarentena ($OR = 2.320$, $p = 0.0051$). Durante la pandemia de COVID-19, la ansiedad clínica y la depresión fueron comunes entre

la población estudiada; ser «mujer» y «joven» fueron factores independientes para sufrir ambos.

PALABRAS CLAVE:

Ansiedad · Depresión · Coronavirus · Salud mental · México · COVID-19

ABSTRACT

An observational, transversal, and descriptive study was carried out on 850 individuals living in Mexico to determine the degree of anxiety and depression in this population. Participants answered an online questionnaire about their current lifestyle, the Generalized Anxiety Disorder-7 (GAD-7) instrument, and the Patient Health Questionnaire-9 (PHQ-9). The significant factors found in participants with clinical cut-off for depression included: being of ages 15-29 ($OR=11.187$, $p=0.0002$),

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30-49 (OR=4.134, $p=0.0262$), gender (female) (OR=2.033, $p=0.0040$), and quarantine style (OR=1.850, $p=0.0160$). For the participants that met the clinical cut-off for anxiety, significant factors found included: being of ages 15-29 (OR=3.326, $p=0.0303$), gender (female) (OR=2.994, $p=0.0001$), and quarantine style (OR=2.320, $p=0.0051$). During the COVID-19 outbreak, clinical anxiety and depression were common among the Mexican population studied, «female» and «young age» represented the independent factors for suffering both.

◆◆ KEYWORDS:

Anxiety · Depression · Coronavirus · Mental health · Mexico · COVID-19

◆◆ INTRODUCTION

Good mental health is related to mental and psychological well-being and has become an increasingly important topic (WHO, 2020b). Anxiety is one of the many mental illnesses that plague the nation, and its direct and indirect causes are often multifaceted. Many factors increase the risk of suffering anxiety: the death of a loved one, arguments or fights, domestic violence, drug abuse, and concerns about family or illnesses (Shao *et al.*, 2020). However, the specific factors that can lead to

anxiety may not: everybody is different and can be affected in diverse ways. Freud defined anxiety as an emotional state that included feelings of apprehension, tension, nervousness, and worry, accompanied by physiological arousal (Wagner *et al.*, 2012). Depression is a mood disorder that can cause sleep disturbances, difficulty concentrating, tiredness, irritable or aggressive behavior, suicidal thoughts, headaches, and other symptoms. The factors that increase the risk of major depression or depressive episodes are similar to factors that cause anxiety (Cohen & DeRubeis, 2018). Anxiety and depression are considered critical illnesses that affect the productivity and lifestyle of a person (Choi *et al.*, 2020).

On December 31, 2019, Wuhan, China, declared a sanitary emergency because of an unknown virus to the Beijing office of the World Health Organization (WHO). Months later, it reached different countries around the globe (WHO, 2020a). Some population contracts COVID-19 without symptoms; however, the virus retains its communicable properties for transmission to others (WHO, 2019). According to the available data, the COVID-19 virus is transmitted mainly between people through close contact and respiratory droplets (WHO, 2020b). For this reason, the population must stay home and

isolate themselves from the surrounding community. In March 2020, most countries issued a quarantine order, instructing people to stay home. In Mexico, the quarantine order drastically affected the lifestyle of its citizens due to the abrupt change in the societal norms and activities that maintained its vibrant and social culture. The challenges the virus brought were unpredictable and made it difficult not to worry about the future, work, and the well-being of the loved ones. The lockdown that took place may have developed anxiety and depression in the people. The social distancing order and the new routine people are living in are principal reasons to believe that the COVID-19 pandemic will increase anxiety and depression rates in Mexico's general population and the entire world. According to Medina & Jaramillo-Valverde (2020), Peru's general population and health personnel presented negative psychological signs, being the main ones: symptoms of post-traumatic stress, confusion, and anger. It is important to determine what percentage of the population will present these psychological changes regarding the presence of anxiety and depression. This study aims to define the prevalence of anxiety and depression in the Mexican population during the confinement of the COVID-19 pandemic.

◆◆ METHODOLOGY

Observational, transversal, and descriptive study in Mexico from May 23 to June 14, 2020. Participants living in Mexico on an age greater than or equal to 15 years, with internet access, answered an online questionnaire developed using Microsoft Forms®. Participants received the questionnaires through different social media outlets. Participation in the study was voluntary. The participants first read the information regarding the research; they had the option to «decline» or «accept». If they accepted, they had to answer demographic questions about residence (state), age, sex, marital status, living arrangement (alone or with others), and workplace. The following section included questions about COVID-19 awareness and beliefs, days spent in quarantine, lifestyle, beliefs about quarantine, and risk factors. Participants with previous diagnoses of anxiety or depression were eliminated from the study sample. Questions about anxiety were asked based on the General Anxiety Disorder-7 item instrument (GAD-7), which consists of seven questions using a Likert scale to get results. Anxiety level categories from GAD-7 are: 0-4 points indicate «no anxiety»; 5-9 points indicate «mild anxiety»; 10-14 points indicate «moderate anxiety», and 15- 21 points indicate «severe anxiety». GAD-7 was published in English by Spitzer *et al.* in 2006, and in Spanish, in 2010 (García-Campayo *et al.*, 2010).

The Patient Health Questionnaire-9 (PHQ-9) was used to measure depression levels in participants. The PHQ-9 is a quiz of nine questions; it is a self-administered version of the Primary Care Evaluation of Mental Disorders (PRIME-MD) (Spitzer *et al.*, 1990). The instrument is validat-

THE PARTICIPANTS FIRST READ THE INFORMATION REGARDING THE RESEARCH; THEY HAD THE OPTION TO «DECLINE» OR «ACCEPT». IF THEY ACCEPTED, THEY HAD TO ANSWER DEMOGRAPHIC QUESTIONS ABOUT RESIDENCE (STATE), AGE, SEX, MARITAL STATUS, LIVING ARRANGEMENT (ALONE OR WITH OTHERS), AND WORKPLACE.

ed in Spanish (Baader *et al.*, 2012), and uses a Likert scale to obtain results. The categories for depression levels from PHQ-9 are «no depression» (0-4 points), «mild depression» (5-9 points), «moderate depression» (10-14 points), «moderate-severe depression» (15-19 points), and «severe depression» (20-27 points).

Variables of interest for this study include age, gender, marital status, presence of a COVID-19 risk factor, days spent in quarantine, living arrangement, belief that there is an advantage to quarantine, awareness of COVID-19 existence, quarantine method, working in the healthcare sector, and region of residence in Mexico.

◆◆ STATISTICAL ANALYSES

All statistical analyses were completed using SAS 9.4 (SAS Institute, Cary NC). Predictor variables initially comprised in the model included demographic factors such as age, gender,

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and marital status. Other predictors incorporated days in quarantine, presence of risk factors, knowledge of COVID-19 existence, living arrangements and quarantine method, whether the participant worked in the healthcare sector, or not, and region. The outcome variables included the presence of clinical anxiety (GAD-7 score ≥ 10) and clinical depression (PHQ-9 score ≥ 10) (Merz *et al.*, 2011).

Descriptive statistics for each were described and assessed using the Chi-Square Statistic. Missing data are noted as «Not Specified» in the frequency tables in which it applies. This missing information was not included in the Chi-Square Analysis. Univariate analyses were conducted to examine the relationship between each predictor variable, and the outcome variables of clinical anxiety and clinical depression. Next, multivariate analyses were conducted using binomial logistic regression to identify predictors associated with the outcome variables. Predictor variables for both univariate analyses and binomial regression analyses comprised in the model included demographic factors, days in quarantine, presence of risk factors, knowledge of COVID-19 existence, living arrangements, and quarantine method.

◆◆ RESULTS

Table 1 shows the characteristics and frequency of clinical anxiety and depression concerning sociodemographic variables, days in quarantine, presence of risk factors, beliefs about COVID-19, living arrangements, and whether they were partial or complete quarantine. The descriptive information in table 1 evinces that when assessing for the presence of clinical depression (PHQ-9 ≥ 10), 83 (9.76%) presented with clinical anxiety (GAD-7 ≥ 10) and 139 (16.35%) presented with clinical depression. For clinical depression, there showed to be a significant relationship between gender ($p=0.0002$), age ($p<0.0001$), marital status ($p=0.0028$), and quarantine method ($p<0.0001$). For clinical anxiety, there showed to be a significant relationship between gender ($p=0.0001$) and the quarantine method ($p=0.0001$).

After running univariate logistic regression for the presence of clinical anxiety and clinical depression during quarantine in Mexico, the following factors were associated independently with having a higher odds of presence of de-



PREDICTOR VARIABLES INITIALLY COMPRISED IN THE MODEL INCLUDED DEMOGRAPHIC FACTORS SUCH AS AGE, GENDER, AND MARITAL STATUS.

pression: being of ages 15-29 (Odds Ratio [OR]: 12.069; 95% Confidence Interval, [CI]: 2.929, 49.732; $p=0.0006$), female (OR=2.216; CI=1.438, 3.414; $p=0.0003$), being single, divorced or widowed (OR= 2.277; CI=1.310, 3.956; $p=0.0035$), spending 56-75 days in quarantine (OR=2.880; CI=1.012, 8.197; $p=0.0429$), and doing a complete quarantine method (OR=2.638; CI=1.624, 4.285; $p<0.0001$). The following factors were independently associated with having a higher odd of presence of clinical anxiety: being female (Odds Ratio [OR]: 3.686; 95% Confidence Interval, [CI]: 1.832, 7.419; $p=0.0003$) and doing a complete quarantine method (OR=3.174; CI= 1.705, 5.909; $p=0.0003$).

Table 2 shows the results of the two binary logistic regression tests conducted to investigate the relationship between the predictor variables, and to learn about the presence of clinical depression (PHQ-9 score ≥ 10) and clinical anxiety (GAD-7 score ≥ 10), respectively. For participants that met the clinical cut-off for depression, significant factors found included being of ages 15-29 (OR=14.586; CI=3.221, 66.064; $p=0.0005$), being of ages 30-49 (OR= 4.939; CI=1.095, 22.278; $p=0.0377$), gender (female) (OR=2.058; 1.296, 3.207; $p=0.0021$), and quarantine style (OR=2.058; CI=1.227, 3.452; $p=0.0062$). For the presence of participants that met the clinical cut-off for anxiety, significant factors found included being ages 15-29 (OR=3.326, $p=0.0303$), being female (OR=3.806; 1.839, 7.876; $p=0.0003$) and quarantine style (OR=3.129; 1.592, 6.152; $p=0.0009$).

Table 1. Descriptive statistics for the presence of clinical cut-off scores based on the PHQ-9 and GAD-7 for depression and anxiety, respectively.

	Depression					p-value	Anxiety				p-value
	N=850	Yes		No			Yes		No		
		N=400	%	N=450	%		N=395	%	N=455	%	
Gender											
Male	368	144	36.00	224	49.78	<0.0001	130	32.91	238	52.31	<0.0001
Female	482	256	64.00	226	50.22		265	67.09	217	47.69	
Age group											
15-29	527	296	74.19	231	51.56	<0.0001	273	69.29	254	56.07	<0.0001
30-49	211	83	20.80	128	28.57		93	23.60	118	26.05	
50+	109	20	5.01	89	19.87		28	7.11	81	17.88	
Not specified	3	1	-	2	-		2	-	1	-	
Marital status											
Single, divorced, widowed	638	333	83.25	305	67.78	<0.0001	333	83.25	305	67.78	0.0003
Married	212	67	16.75	145	32.22		67	16.75	145	32.22	
Risk factor											
Yes	98	334	74.22	302	75.50	0.6683	88	22.28	126	27.69	0.0697
No	636	116	25.78	98	24.50		307	77.72	329	72.31	
Days in quarantine											
0 days	67	19	4.75	48	10.67	<0.0001	20	5.06	47	10.33	0.0015
<15 days	21	3	0.75	18	4.00		5	1.27	16	3.52	
16-35 days	53	22	5.50	31	6.89		17	4.30	36	7.91	
36-55 days	191	88	22.00	103	22.89		94	23.80	97	21.32	
56-75 days	401	218	54.50	183	40.67		203	51.29	198	43.52	
75+ days	117	19	12.50	67	14.89		56	14.18	61	13.41	
Living arrangement											
With company	735	351	87.75	384	85.33	0.3039	350	88.61	385	84.62	0.0897
Alone	115	49	12.25	66	14.67		45	11.39	70	15.38	
Advantage to quarantine											
Yes	730	340	85.00	390	86.67	0.4861	336	85.06	394	86.59	0.5228
No	120	60	15.00	60	13.33		59	14.94	61	13.41	
Knowledge of COVID-19 existence											
No	26	7	1.75	19	4.22	0.0367	6	1.52	20	4.40	0.0151
Yes	824	393	98.25	431	95.78		389	98.48	435	95.60	
Quarantine method											
Partial	735	336	84.00	403	89.56	0.0047	337	85.32	402	88.35	0.0862
Complete	115	64	16.00	43	9.56		58	14.68	49	10.77	
Working in the healthcare sector?											
Yes	54	21	7.53	33	9.54	0.3738	23	8.27	31	8.93	0.7703
No	571	258	92.47	313	90.46		255	91.71	316	91.07	
Not specified	225	121	-	104	-		117	-	108	-	
Region											
Central	112	57	14.39	56	12.47	0.2159	57	14.54	56	12.36	0.2667
East	515	228	57.58	286	63.70		241	61.48	274	60.26	
North	172	85	21.46	87	19.38		77	19.64	95	20.97	
South	28	18	4.55	10	2.23		13	3.32	15	3.31	
West	18	8	2.02	10	2.23		4	1.02	14	3.09	
Not specified	5	4	-	1	-	-	3	-	2	-	-

Table 2. Summary of binomial logistic regression analyses for variables predicting presence of anxiety and depression during quarantine in Mexico (n=850).

Variables	Depression			Anxiety		
	OR	95% CI	p-value	OR	CI	p-value
Age						
15-29	5.856	3.177, 10.794	<0.0001	2.559	1.467, 4.465	0.0009
30-49	3.286	1.831, 5.898	<0.0001	2.319	1.361, 3.951	0.0020
50+	1.000			1.000		
Gender						
Male	1.000			1.000		
Female	1.639	1.219, 2.202	0.0011	2.117	1.582, 2.833	<0.00001
Marital status						
Married	1.000					
Single	1.129	0.713, 1.789	0.6043	1.229	0.787, 1.919	0.3647
Risk Factor						
No	1.000			1.000		
Yes	1.444	1.013, 2.053	0.0424	0.959	0.680, 1.352	0.8097
Days in quarantine						
0 Days	1.000			1.000		
<15 days	0.322	0.082, 1.261	0.1036	0.631	0.196, 2.025	0.4385
16-35 days	1.650	0.730, 3.728	0.2284	0.963	0.423, 2.192	0.9282
36-55 days	1.719	0.903, 3.272	0.0992	1.893	0.978, 3.458	0.0586
56-75 days	2.154	1.169, 3.968	0.0139	1.708	0.937, 3.114	0.0805
> 75 days	1.297	0.645, 2.607	0.4654	1.594	0.806, 3.152	0.1806
Living in company						
Yes	1.000					
No	1.077	0.680, 1.704	0.7524	0.835	0.531, 1.312	0.4337
Advantage to quarantine						
Yes	1.000			1.000		
No	0.853	0.558, 1.302	0.4609	0.785	0.516, 1.192	0.2560
Knowledge of COVID-19 existence						
No	1.000					
Yes	0.409	0.158, 1.058	0.0653	0.376	0.141, 1.008	0.0520
Quarantine method						
Partial	1.000			1.000		
Complete	1.390	0.889, 2.173	0.1489	1.131	0.732, 1.749	0.5785

OR: Odds Ratio 95% CI: 95% Confidence Interval.

DISCUSSION

The purpose of the study was to examine the risk factors associated with clinical depression and clinical anxiety during COVID-19 in Mexico. It is important to understand these factors because they can enlighten the long-term impact of the pandemic on this population as well as create interventions to improve well-being. The study found that half of the population presented a level of anxiety or depression, similar to

another study conducted in Mexico at the initial phase of the COVID-19 pandemic, in which the prevalence of anxiety and depression was 50% and 27.6%, respectively (Garcia-Priego *et al.*, 2020). An investigation in Turkey showed that 23.6% of the population studied had depression, and 41.5% had anxiety (Özdin & Baykrak Özdin, 2020). These results concur with an ample study from China that reported that approximately 35% of people were psychologically af-

ected by the pandemic (Qiu *et al.*, 2020). The results of this study are consistent with previous studies that found that exposing public health emergencies such as the Ebola outbreak (Shultz *et al.* 2014), earthquakes (Zhang *et al.*, 2011), and SARS (Mak *et al.*, 2009) could cause mental health issues.

It is important to note that the study participants did not have any known psychiatric issues, and this study indicated that 16% of the population met the criteria for clinical depression and 10% met the criteria for clinical anxiety. In the multivariate analysis, compared to the older age group (50 years and older), being of a younger age group was associated with odds of clinical anxiety and clinical depression. Being female compared to being male was also associated with higher odds of clinical anxiety and clinical depression. Participants in complete quarantine compared with those in partial quarantine also had higher odds of clinical depression and clinical anxiety.

The results showed that gender represents a risk factor for anxiety and depression, such as that women presented a higher percentage of both mental problems; this agrees with other authors that affirm that women are more vulnerable to developing depression than men during the COVID-19 outbreak (Zhou *et al.*, 2020; Özdin & Baykrak Özdin, 2020). Furthermore, anxiety disorder has been seen at three-fold higher levels in women than in men during the COVID-19 pandemic in other studies (Wang *et al.*, 2020). Similar to this, in the Republic of Ireland, a study conducted within the general adult population during the COVID-19 quarantine showed that the screening positive for depression and anxiety was significantly associated with being younger and female (Hayland *et al.*, 2020). Previous studies have shown that anxiety disorders and depressive disorders are recurrent in women (Alexander *et al.*, 2007; Bobevski *et al.*, 2016). A survey administrated in Mexico in 2016 showed that depression affected 2.095 million men and 4.95 million women, attributing that women may be at higher risk for depression due to hormonal changes, obligations to fulfill the duties associated with motherhood, marriage, oppression of women, and societal expectation of gender-based role fulfillment (Inmujeres, 2016). The latest national mental health survey conducted in Mexico showed that the overall prevalence of anxiety disorders was 14.3% and that 4.5% of the population may suffer from some mood disorder, including depression (Medina-Mora *et al.*,

SEVERAL FACTORS HAVE BEEN ASSOCIATED WITH ANXIETY AND DEPRESSION DURING THE COVID-19 PANDEMIC, AGE IS ONE OF THEM: IN OUR STUDY, PARTICIPANTS OF AGES

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YEARS OLD WERE MORE LIKELY TO PRESENT ANXIETY AND DEPRESSION.

2003). Worth mentioning, that the female gender has been recognized as the most potent predictor of post-traumatic stress disorder symptoms after pandemics (Liu *et al.*, 2020).

Several factors have been associated with anxiety and depression during the COVID-19 pandemic, age is one of them: in our study, participants of ages 15-29 years old were more likely to present anxiety and depression. The Complutense University of Madrid (2020) conducted a study where young people between 18 and 39 years of age experience a higher level of anxiety, depression, and stress in confinement than the rest of the age range. Similarly, younger age (18-29) was a risk factor for increased anxiety and depression in the community (students, faculty, and staff) of the University of Cyprus (Solomou & Constantinidou, 2020).

When assessing quarantine style, those who completed quarantine had higher odds of clinical depression and anxiety compared to those who did partial quarantine. These results are similar to previous literature that indicates that higher lockdown restrictions led to bigger mental health impairments (Benke *et al.*, 2020). This finding is consistent with the role of social isolation and disruption of social life in mental health and well-being. Social isolation can lead to loneliness and boredom, which are associated with higher degrees of psychological distress. More importantly, social isolation

and boredom have been shown to predict premature mortality, depression, cardiovascular disease, and other cognitive issues (Smith & Lim, 2020). Given that the long-term impacts of quarantine, social isolation, and loneliness can lead to so many detrimental psychological and well-being consequences, it should be of high consideration to address these issues in Mexico. The risk factors exposed in the present investigation demonstrate the need for effective mental health programs for the implementation of precautionary measures as a public health strategy in Mexico.

The present study did not reach a sufficient number of participants for each geographic region of Mexico, so it cannot be used as a study variable. In addition, it had a limited population sample in terms of internet access; therefore, it may not be representative of the population without internet access. Nevertheless, the study answers an international call for research priority to immediately improve monitoring of the reported rates of anxiety and depression across the general population to inform the global impact of COVID-19 (Holmes *et al.*, 2020).

CONCLUSION

The study provides valuable information on the mental health of the Mexican population during the COVID-19 pandemic. We found that half of our studied population presented a level of anxiety or depression. The results of this study offer a useful starting point to identify the presence of anxiety and depression during the COVID-19 pandemic in Mexico. Future research should study anxiety and depression in the long term, using larger samples and longitudinal designs.



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REFERENCES

- Alexander, J. L., Dennerstein, L., Kotz, K. & Richardson, G. (2007). Women, anxiety, and mood: A review of nomenclature, comorbidity, and epidemiology. *Expert Review of Neurotherapeutics*, 7(11 Suppl.), S45-S58. <https://doi.org/10.1586/14737175.7.11s.S45>
- Arenas, M. C. & Puigcerver, A. (2009). Diferencias entre hombres y mujeres en los trastornos de ansiedad: una aproximación psicobiológica. *Escritos de Psicología (Internet)*, 3(1), 20-29. Recovered from http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S198938092009000300003&lng=es&tlng=es
- Baader, T., Molina, J. L., Venezian, S., Rojas, C., Fariás, R., Fierro-Freixenet, C., Backenstrass, M. & Mundt, C. (2012). Validación y utilidad de la encuesta PHQ-9 (Patient Health Questionnaire) en el diagnóstico de depresión en pacientes usuarios de atención primaria en Chile. *Revista chilena de neuro-psiquiatría*, 50(1), 10-22. <https://dx.doi.org/10.4067/S0717-92272012000100002>
- Benke, C., Autenrieth, L. K., Asselmann, E. & Pané-Farré, C. A. (2020). Lockdown, quarantine measures, and social distancing: Associations with depression, anxiety, and distress at the beginning of the COVID-19 pandemic among adults from Germany. *Psychiatry Research*, 293, 113462. <https://doi.org/10.1016/j.psychres.2020.113462>
- Bobevski, I., Clarke, D. M. & Meadows, G. (2016). Health anxiety and its relationship to disability and service use: Findings from a large epidemiological survey. *Psychosomatic Medicine*, 78(1), 13-25. <https://doi.org/10.1097/psy.000000000000025>
- Brooks, S., Webster, R., Smith, L., Woodland, L., Wessely, S., Greenberg, N. & Rubin, G. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*, (395), 912-20. Recovered from [https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(20\)30460-8.pdf](https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)30460-8.pdf)

9 T D V O C

- Choi, E. P. H., Hui, B. P. H. & Wan, E. Y. F. (2020). Depression and anxiety in Hong Kong during COVID-19. *International journal of environmental research and public health*, 17(10), 3740. <https://doi.org/10.3390/ijerph17103740>
- Cohen, Z. D., & DeRubeis, R. J. (2018). Treatment selection in depression. *Annual Review of Clinical Psychology*, 14. <https://doi.org/10.1146/annurev-clinpsy-050817-084746>
- García-Campayo, J., Zamorano, E., Ruiz, M. A., Pardo, A., Pérez-Páramo, M., López-Gómez, V., Freire, O. & Rejas, J. (2010). Cultural adaptation into Spanish of the generalized anxiety disorder-7 (GAD-7) scale as a screening tool. *Health and quality of life outcomes*, 8, 8. <https://doi.org/10.1186/1477-7525-8-8>
- García-Priego, B. A., Triana-Romero, A., Pinto-Galvez, S. M., Duran-Ramos, C., Salas-Nolasco, O., Reyes, M. M., ... & Troche, J. M. R. (2020). Anxiety, depression, attitudes, and internet addiction during the initial phase of the 2019 coronavirus disease (COVID-19) epidemic: A cross-sectional study in Mexico. *MedRxiv*. <https://doi.org/10.1101/2020.05.10.20095844>
- Gómez, A. E. (Julio 2007). Salud física y salud mental. Un binomio indisoluble. *Elsevier*. 21(7), 53-56.
- Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S. & Styra, R. (2004). SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging infectious diseases*, 10(7), 1206-1212. <https://doi.org/10.3201/eid1007.030703>
- Holmes, E. A., O'Connor, R. C., Perry, V. H. et al. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry*. [https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
- Hyland, P., Shevlin, M., McBride, O., Murphy, J., Karatzias, T., Bentall, R. P., ... & Vallières, F. (2020). Anxiety and depression in the Republic of Ireland during the COVID 19 pandemic. *Acta Psychiatrica Scandinavica*, 142(3), 249-256. <https://doi.org/10.1111/acps.13219>
- INMUJERES. Instituto Nacional de las Mujeres (2016). Mujeres y hombres en México 2016. Recovered from http://cedoc.inmujeres.gob.mx/documentos_download/MHM_2016.pdf
- Liu, N., Zhang, F., Wei, C., Jia, Y., Shang, Z., Sun, L., ... Liu, W. (2020). Prevalence and predictors of PTSD during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. *Psychiatry Research*, 287, 112921. <https://doi.org/10.1016/j.psychres.2020.112921>
- Mak, I. W. C. Chu, C. M., Pan, P. C., Yiu, M. G. C. & Chan, V. L. (2009). Long-term psychiatric morbidities among SARS survivors. *Gen. Hosp. Psychiatry*, 31, 318-326. <https://doi.org/10.1016/j.genhosppsy.2009.03.001>
- Merz, E. L. et al. (2011). A multigroup confirmatory factor analysis of the Patient Health Questionnaire-9 among English- and Spanish-speaking Latinas. *Cultural diversity & ethnic minority psychology*, 17(3), 309-316. <https://doi.org/10.1037/a0023883>
- Medina-Mora, M., Borges, G., Lara-Munoz, Benjet, C., Blanco-Jaime, J., Fleiz-Bautista, C., et al. (2003). Prevalencia de trastornos mentales y uso de servicios: Resultados de la Encuesta Nacional de Epidemiología Psiquiátrica. *Salud Mental*, 26(4), 1-16. <https://www.medigraphic.com/cgi-bin/new/resumenl.cgi?IDARTICULO=17215>
- Medina, R. & Jaramillo-Valverde, L. (2020). El COVID-19: Cuarentena y su Impacto Psicológico en la población. <https://doi.org/10.1590/SciELOPreprints.452>
- Özdin, S. & Bayrak Özdin, Ş. (2020). Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: The importance of gender. *International Journal of Social Psychiatry*, 66(5), 504-511. <https://doi.org/10.1177/0020764020927051>
- Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B. & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. *General Psychiatry*, 33(2), Article100213. <https://doi.org/10.1136/gpsych-2020-100213>
- Shao, R., He, P., Ling, B., Tan, L., Xu, L., Hou, Y., ... & Yang, Y. (2020). Prevalence of depression and anxiety and correlations between depression, anxiety, family functioning, social support and coping styles among Chinese medical students. *BMC psychology*, 8, 1-19. <https://doi.org/10.1144/Javeriana.upsy19.epbi>
- Shultz, J. M., Baingana, F. & Neria, Y. (2015). The 2014 Ebola outbreak and mental health: Current status and recommended response. *JAMA J. Am. Med. Assoc.* 313, 567-568. doi:10.1001/jama.2014.17934
- Smith, B. J. & Lim, M. H. (2020). How the COVID-19 pandemic is focusing attention on loneliness and social isolation. *Public health research & practice*, 30(2), 3022008. <https://doi.org/10.17061/phrp3022008>
- Solomou, I. & Constantinidou, F. (2020). Prevalence and predictors of anxiety and depression symptoms during the COVID-19 pandemic and compliance with precautionary measures: Age and sex matter. *International journal of environmental research and public health*, 17(14), 4924. <https://doi.org/10.3390/ijerph17144924>
- Spitzer, R. L., Kroenke, K., Williams, J. B. & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, 166(10), 1092-1097. doi:10.1001/archinte.166.10.1092
- Spitzer, R. L., Kroenke, K., Williams, J. B. (1999). Patient Health Questionnaire Primary Care Study Group, & Patient Health Questionnaire Primary Care Study Group. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. *Jama*, 282(18), 1737-1744. doi:10.1001/jama.282.18.1737
- Universidad Complutense de Madrid (2020). Oficina de Transferencia de Resultados de Investigación. Recovered from <https://www.ucm.es/otri/noticias-los-jovenes-sienten-mas-ansiedad-y-depresion-por-el-covid-19-que-los-grupos-de-riesgo>
- Wagner, F. A., González-Forteza, C., Sánchez-García, S., García-Peña, C. & Gallo, J. J. (2012). Enfocando la depresión como problema de salud pública en México. *Salud mental*, 35(1), 3-11. <https://dialnet.unirioja.es/servlet/articulo?codigo=4852639>
- Wang, Y., Di, Y., Ye, J. & Wei, W. (2020). Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China. *Psychology, Health & Medicine*. Advance online publication. <https://doi.org/10.1080/13548506.2020.1746817>
- World Health Organization (2019). La salud mental en el lugar de trabajo. Retrieved from: https://www.who.int/mental_health/in_the_workplace/es/
- World Health Organization (2020a). Mental Health. Recovered from https://www.who.int/mental_health/en/
- World Health Organization (2020b). Preguntas y respuestas sobre la enfermedad por coronavirus (COVID-19). Recovered from <https://www.who.int/es/emergencias/diseases/novel-coronavirus-2019/advice-for-public/q-a-coronaviruses>
- Zhang, Z., Shi, Z., Wang, L. & Liu, M. (2011). One year later: Mental health problems among survivors in hard-hit areas of the Wenchuan earthquake. *Public Health*, 125, 293-300. <https://doi.org/10.1080/09638237.2016.1276525>
- Zhou, J., Yuan, X., Qi, H. et al. (2020). Prevalence of depression and its correlative factors among female adolescents in China during the coronavirus disease 2019 outbreak. *Global Health*, 16, 69. <https://doi.org/10.1186/s12992-020-00601-3>