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Depression, anxiety, and insomnia among Peruvian university students during the COVID-19 pandemic

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***Abstract*---**Objective: The objective of the study is to evaluate the frequency of depression, anxiety, and insomnia, and their respective associated factors in students of Peruvian universities during the COVID-19 pandemic. Materials and Methods: A cross-sectional descriptive study. Students from 15 Peruvian universities (Private universities: 10, public universities: 5) participated, 72.3% located in Lima city, and the remaining fraction located in other cities of the country. The evaluation of depression, anxiety, and insomnia was performed with Patient Health Questionnaire-9 (PHQ-9), "Generalized anxiety disorder" (GAD-7), and "Insomnia Severity Index" (ISI), respectively. Data collection was carried out from June to September

2021. Results: A total of 792 students with a median age of 22 years (Q3=23, Q1=21) participated. Of the sample, 58% (n=459) presented depression, 52.7% (n=417) anxiety, and 47.1% (n=373) presented insomnia. Female students had a higher risk for the development of symptoms of depression (ORa=1.55, CI9%: 1.16-2.08), anxiety (ORa=1.90, CI95%: 1.42-2.55), and insomnia (ORa=1.42, CI95%: 1.06-1.92). The presence of a history of any medical illness was associated with a higher risk of depression (ORa=1.78, CI95%: 1.22-2.60), anxiety (ORa=1.82, CI95%: 1.26-2.63), and insomnia (ORa=1.79, CI95 %:1.24-2.58). Conclusions: Among the students of Peruvian universities, there is a high frequency of depression, anxiety, and insomnia during the COVID-19 pandemic. The common factors associated with a higher risk of developing the three health conditions described were female gender and a personal history of a medical illness. The implementation and/or strengthening of mental health preventive and promotional assistance programs is recommended.

***Keywords*---**depression, anxiety, sleep initiation, maintenance disorders, students, Peru.

Introduction

Good mental health is an integral part of health and human well-being, on the other hand, mental health and common mental disorders are shaped by the social, economic, and physical environment in which people live[1]. Worldwide, 792 million people live with a mental health disorder, equivalent to 10.7% of the world population, of which 264 million have depression and 284 million anxiety disorders; the proportion of the population with depression ranges between 2% and 6%, while anxiety disorders vary from 2.5% to 7%, both disorders being more frequent in women[2].

There is a higher prevalence of psychiatric symptoms during the COVID-19 pandemic, depressive symptoms ranging from 14.6% to 48.3%, compared to 3.6% to 7.2% among the population before the pandemic, while the prevalence of anxiety symptoms ranges from 6.3% to 50.9%[3]. In China, the main mental health disorders during the coronavirus outbreak in the general population reached 27.9% for depression, 31.6% for anxiety, and 29.2% for insomnia[4]. The impact of the COVID-19 pandemic has also been notable in the population of various countries in Asia, Europe, and America, 25.6% with symptoms of anxiety, 23.1% with symptoms of depression, and 36.7% with symptoms of insomnia[5].

The COVID-19 pandemic also had an impact on the mental health of Chinese students. The frequency of anxiety increased to 24% compared to 17% before the pandemic, while the frequency of depression was 22%, similar to the frequency before the coronavirus outbreak[6]. A meta-analysis showed a prevalence of 39% for depression and 36% for anxiety, reaching 60% respectively for the prevalence of these problems among non-Chinese university students[7]. Countries such as the United States presented a frequency of 48.14% of moderate to severe depression level and 38.48% of mild to severe anxiety among university

students[8]; in Brazil, 60.5% and 52.5% of students presented depression and anxiety, respectively[9]; while in Switzerland, 85.8% of university students experienced anxiety symptoms during the coronavirus outbreak[10]. In addition to anxiety and depression disorders during the COVID-19 pandemic, sleep disorders were also frequent among students. In China, 16.67% of university students had insomnia, a rate higher than the 9.5% before the outbreak[11]. During confinement, the impact of delayed bedtime and waking up was more pronounced in students [12].

The COVID-19 pandemic has compromised the mental health status of the population, there is evidence of an increase in the frequency of depression, anxiety, and insomnia compared to the frequency before the pandemic. Due to the above, there is a need to evaluate the commitment of the mental health status due to the COVID-19 pandemic among university students in the Peruvian context. Furthermore, we believe that a history of altered physical or mental health status, the presence of COVID-19 in family members, friends, acquaintances, or neighbours, as well as the influence of social networks, can trigger or accentuate the presence of depression, anxiety, and insomnia among college students. Therefore, the present study aims to evaluate the frequency of depression, anxiety, and insomnia and their associated factors among students of Peruvian universities.

Materials and Methods

Study design

A cross-sectional study of the frequency of symptoms of depression, anxiety, insomnia, and associated factors was conducted in 2021 among Peruvian university students.

Population and sample

The study population consisted of students enrolled in the first semester of 2021 in a public or private university in Peru. The estimation of the sample size was carried out, taking the number of students enrolled in both private and state universities. According to the report of the National Institute of Statistics and Informatics (INEI), in 2018 a total of 927,426 students were enrolled[13]. The sample size was calculated using the following formula: $n=[N*Z_a^2*p*q]/[d^2*(N-1)+Za^2*p*q]$, considering a 95% confidence level ($Z_{a=}1,96$), N=927426, p=0,5, q=0,5 y d=5%. The minimum sample calculated was 384 students.

The sample selection was probabilistic using the simple random method. We included all students of any age and gender, enrolled in the academic period 2021-I, who voluntarily agreed to participate in the study. In this study, we enrolled 797 participants from different university programs (five subjects were excluded due to incomplete data). Of the total participants, 73.6% (n=583) were from 10 private universities and 26.4% (n=209) from five public universities; likewise, 72.3% (n=573) of the universities located in the city of Lima, and the remaining fraction in other cities of the country.

Study variables

Depression: A common and treatable mental affective disorder characterized by changes in mood with cognitive and physical symptoms[14].
Anxiety: Anticipatory response to a future threat, often associated with muscle tension and vigilance in preparation for future danger and cautious or avoidant behaviors[15].
Insomnia: Disorders characterized by impairment of the ability to initiate or maintain sleep. This may occur as a primary disorder or in association with another medical or psychiatric condition[16].
Comparison variables: Sex, age, and marital status were considered. We have also included the presence or absence of a personal history of medical illness, history of mental health issues, personal history of COVID-19, family history of COVID-19, and history of COVID-19 in friends, acquaintances, or neighbours. Finally, we have included employment status and access to social networks.

Measuring instruments

Depression

We have applied the Spanish version of Patient Health Questionnaire-9 (PHQ-9), this is a valid and reliable instrument in the university context[17]. The PHQ-9 is a valid instrument to be applied in Peru[18][19]. The PHQ-9 is scored on a Likert-type scale from 0 to 3, equivalent to 0: Not at all, 1: Several days, 2: More than half the days, and 3: Nearly every day. The following cut-off points were considered: None (0-4), mild depression (5-9), moderate depression (10-14), moderately severe (15-19), and severe depression (20-27) [20]. For the binary logistic regression analysis, the categories were modified in a dichotomous way. Considering as absence of depression (0-4) and presence of depression for the rest of the categories mentioned (≥5).

Anxiety

The measurement of this variable was carried out with the Spanish version of "Generalized anxiety disorder" (GAD-7) [21]. It has testing of validity and reliability in the Peruvian context [22], and used in university students [23]. The GAD-7 scale is scored from 0 to 3, with a total score ranging from 0 to 21. Based on the final score, the following classification was considered: There is no anxiety (0-4), mild anxiety symptoms (5-9), moderate anxiety symptoms (10-14), and severe anxiety symptoms (15-21) [22]. For the analysis, it was classified as no anxiety (0-4) and presence of anxiety (≥5).

Insomnia

This variable was assessed with the Spanish version of the Insomnia Severity Index (ISI) [24]. This instrument is valid and reliable for assessing insomnia in Spanish-speaking populations [25]. The scale is scored from 0 to 4, with a total score range of 0 to 28 points. The total score is classified as: absence of clinical insomnia (0-7), subclinical insomnia (8-14), clinical or moderate insomnia (15-21), and as clinical or severe insomnia (22-28) [24]. As with the other study

variables, the final dichotomous classification was as absence of insomnia (0-7) and presence of insomnia (≥8).

Data collection technique

The technique employed was the online survey using the Google Forms®, and the link was shared through the university's social networks. Data collection was conducted from June to September 2021.

Statistical analysis

The database created automatically in Google Forms was exported to IBM SPSS Statistics 26. Before processing, the data was verified according to the study criteria. The qualitative socio-demographic data were distributed in frequency tables, the quantitative data were tested for normality, and the statistics of central tendency and dispersion were determined. The study variables such as depression, anxiety, and insomnia were processed according to the indications of each instrument, then the cut-off points of the scores were established for classification into nominal variables. For bivariate analysis, the Chi-Square test was used, with p-values <0.05 being considered significant. To assess the strength of association of the variables, crude Odds Ratios (OR) were calculated. Significant variables were entered into a binary logistic regression model to obtain adjusted ORs and their 95% confidence intervals.

Ethical aspects

This study was conducted in accordance with the ethical principles set out in the Declaration of Helsinki. Students participated voluntarily and gave informed consent, the research protocol was also evaluated and approved by the Ethics Committee of the University of Sciences and Humanities (ID: 016-21, CEI N° 015).

Results

In this study, 797 students participated, of which five were excluded due to incomplete data, so the analysis was conducted with 792 participants with a median age of 22 years (Q3=23, Q1=21). Table 1 and table 2 show the socio-demographic data and the educational characteristics of the students, respectively. Of all participating students, 58% (n=459) had depression, 52.7% (n=417) had anxiety, and 47.1% (n=373) had insomnia. The predominant conditions were: mild depression, mild anxiety, and subclinical insomnia, accounting for 44.2% (n=350), 44.2% (n=350), and 42.3% (n=335), respectively (Figure 1).

Depression, anxiety, and insomnia in students were significantly associated with female gender (p<0.05), with personal history of medical illness (p<0.001), history of COVID-19 in someone known to the student (p<0.05), and with students who were social network users (p<0.05). Family history of Covid-19 and non-working students were associated with anxiety and insomnia (p<0.05). Depression was significantly associated with personal history of mental health problems

(p=0.018), while insomnia was associated with participants' age group (p<0.001) (Table 3).

Table 4 shows that women have a higher risk for the development of depressive symptoms (ORa=1.55, 95%CI: 1.16-2.08), anxiety (ORa=1.90, 95%CI: 1.42-2.55), and insomnia (ORa=1.42, 95%CI: 1.06-1.92). Personal history of medical illness was associated with increased risk of depression (ORa=1.78, 95%CI: 1.22-2.60), anxiety (ORa=1.82, 95%CI: 1.26-2.63), and insomnia (ORa=1.79, 95%CI: 1.24-2.58).

Likewise, students with a family history of Covid-19 were at higher risk for anxiety (ORa=1.45, 95%CI: 1.01-2.08), and insomnia (ORa=1.71, 95%CI: 1.18-2.48); while non-working students were at higher risk for anxiety (ORa=1.37, 95%CI: 1.02-1.85), and insomnia (OR=1.45, 95%CI: 1.07-1.96). Students with a history of altered mental health status were at higher risk for depression (ORa=1.55, 95%CI: 1.04-2.31), students with a history of social networking were at higher risk for anxiety (ORa=1.43, 95%CI: 1.06-1.94), and students who mentioned the presence of Covid-19 in someone they knew were at higher risk for insomnia (ORa=2.19, 95%CI: 1.51-3.17) (Table 4).

Discussion

The objective of the study is to evaluate the frequency of depression, anxiety, and insomnia, and their respective associated factors in students of Peruvian universities. This research found a high frequency of depression, anxiety, and insomnia; depression and anxiety exceeded 50%, while insomnia was observed in 47%. There is an effect of COVID-19 on psychological outcomes in the general population, with rates of depression and anxiety ranging from 14.6% to 48.3% and 6.3% to 50.9%, respectively[3]. In the general population of China during the COVID-19 pandemic, the symptom rate for depression was 27.9% (95% CI 27.5% to 28.2%), 31.6% (95% CI 31.2% to 32%) for anxiety, and 29.2% (95% CI 28.8% to 29.6%) for insomnia [4]. Our findings exceeded these frequencies, and this rate is likely to be influenced by the COVID-19 pandemic.

Rates of mental health symptoms such as depression were higher compared to the 3.6% to 7.2% one-year prevalence estimated before the pandemic [3]. In the United States, anxiety and depression in university students were frequent, with frequencies of 48.14% for moderate to severe depression, and 38.48% for mild to severe anxiety[8]. In Switzerland, university students had compromised mental health during the outbreak, 85.8% experienced anxiety [10]. A multicentre study found that during the first months of the Covid-19 pandemic, 25.6% (95%CI: 25.0 to 26.2) had probable anxiety and 23.1% (95%CI: 22.5 to 23.6) had probable depressive disorders[5].

Depression, anxiety, and insomnia all showed significant associations with the female gender, with a personal history of COVID-19, history of COVID-19 in acquaintances, and with attentive students on social networks. Age had a significant association with insomnia, personal history of mental health disorders was related to depression, while family history of COVID-19 and unemployed students had a significant association with anxiety and insomnia. These findings

are consistent with previous studies indicating that women were more likely to develop symptoms of depression and anxiety [3]. In the United States, younger participants, women, and people with lower incomes and those with a previous mental health diagnosis were more likely to test positive for depression and anxiety [26].

Predictors of depressive symptoms include a history of mental stress or medical problems, having acquaintances infected with Covid-19, and exposure to COVID-19-related news[3]. Those most at risk of mental health symptoms were people with confirmed or suspected COVID-19, family members and friends who had contact with COVID-19 patients, and people at risk of occupational exposure[4]. In the present study, when assessing the strength of association, female gender and personal history of medical illness were the highest risk variables associated with symptoms of depression, anxiety, and insomnia. Students with a history of COVID-19 in a family member or acquaintance were at higher risk of having symptoms of anxiety and insomnia. The variable history of mental health disturbance was a risk only for depression, keeping an eye on social networks was a risk for anxiety, while a history of COVID-19 in friends, acquaintances, or neighbours was a risk for insomnia.

Such findings in our study are compatible with reports from other studies. Males are 63% less likely to develop depression than females (OR=0.63, 95%CI: 0.59-0.68)[27], while females have twice the lifetime rates of depression and most anxiety disorders[28][29]. The greatest difference in depression occurs in adolescence[30]; in anxiety disorders, women may be at greater risk of developing or exacerbating symptoms during different phases of their reproductive life[29]. Studies also mention the association between anxiety symptoms and history of mental health problems/medical problems, exposure to social media, or frequent exposure to news/information about COVID-19[3]. Likewise, during confinement, the habit of screen interaction increased light exposure during the night, which may consequently alter melatonin rhythm and sleep-wake cycles[31].

In our research, depression, anxiety, and insomnia were significantly associated with keeping an eye on social networks; however, only anxiety had a stronger association (ORa=1.43, 95%CI: 1.06 to 1.94). Regarding insomnia, there is a female predisposition with a risk ratio of 1.41 (95% CI: 1.28 to 1.55) for women compared to men, the trend of female predisposition is constant and progressive throughout age[32]. In the context of COVID-19, in an international collaborative study in 13 countries and four continents, clinical symptoms were reported in 36.7% (95%CI: 36.0 to 37.4) of respondents; rates of insomnia and insomnia disorder were higher in women and in younger age groups[5].

In this investigation, we found that common risk factors for depression, anxiety, and insomnia were female gender and a personal history of medical illness. Furthermore, family history of COVID-19 and unemployed students were also risk factors for anxiety and insomnia. Whereas the history of altered mental health status, social networking activity, history of COVID-19 in acquaintances were risk factors only for depression, anxiety, and insomnia, respectively. Although the professional career of the participants was found to have a significant association with the three mental health problems, we did not analyse, because a high

proportion of the students did not specify the academic area to which they belonged.

The results of this research should be interpreted with the following limitations in mind. Although symptoms of depression, anxiety, and insomnia were found, they do not necessarily reflect a definitive clinical diagnosis; nevertheless, they require health care. On the other hand, this research considered students from state and private universities, both from the city of Lima and other cities in the country; however, they do not necessarily reflect the university population of Peru. Despite these limitations, the study recruited a large sample and made the necessary effort to share the link through social media.

Conclusions

Among Peruvian university students, there is a high frequency of depression, anxiety, and insomnia. The common factors associated with increased risk for the three health conditions were female sex and a personal history of medical illness. Students with a family history of Covid-19 and those engaged only in academic activities were at higher risk for anxiety and insomnia. Students with a history of a mental health disorder were at higher risk for depression only; on the other hand, students with a history of social networking activity were at higher risk for anxiety, while students who mentioned a history of Covid-19 in friends, acquaintances, or neighbours were a risk for insomnia. Preventive care and mental health promotion programs should be implemented or strengthened in the Peruvian university community.

Key Messages

The COVID-19 pandemic has compromised the mental health status of the population. In this pandemic, university students had a high frequency of depression, anxiety and insomnia, mainly among women and students with a history of medical illness.

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Tables and Graph

Table 1. Sociodemographic data of the Peruvian universities students.

Variables	n	%
Total	792	100
Age (years)		
15 a 19	85	10.7
20 a 24	580	73.2
25 a 29	93	11.7
≥30	34	4.3
Sex		
Female	439	55.4
Male	353	44.6
Marital status		
Married/cohabiting	19	2.4
Separated	17	2.1
With partner	194	24.5
Without partner	562	71.0
History of medical illness		
No	622	78.5
Yes	170	21.5
History of mental health disorder		

No	658	83.1
Yes	134	16.9
Personal history of COVID-19		
No	383	48.4
Yes	409	51.6
Family history of COVID-19		
No	186	23.5
Yes	606	76.5
History of COVID-19 in other people		
No	198	25.0
Yes	594	75.0
Employment status		
Only studying	387	48.9
Studying and working in the health sector	127	16.0
Studying and working in another sector	278	35.1
Social media activity		
No	317	40.0
Yes	475	60.0

Table 2. Academic characteristics of the Peruvian universities students.

Variable	n	%
Total	792	100
Type of university		
State	215	27.1
Private	577	72.9
University location		
Lima city	573	72.3
Other cities	219	27.7
Professional career		
Administration	68	8.6
Architecture	19	2.4
Health Sciences	495	62.5
Communication Sciences	33	4.2
Accounting	17	2.1
Law and Political Science	16	2.0
Economics	3	0.4
Education	19	2.4
Engineering	80	10.1
Marketing	6	0.8
Not specified	36	4.5
Academic period (year)		
First	37	4.7
Second	114	14.4
Third	303	38.3
Fourth	225	28.4
Fifth	71	9.0
Sixth	9	1.1
Seventh	33	4.2

Figure 1. Depression, anxiety and insomnia in Peruvian university students

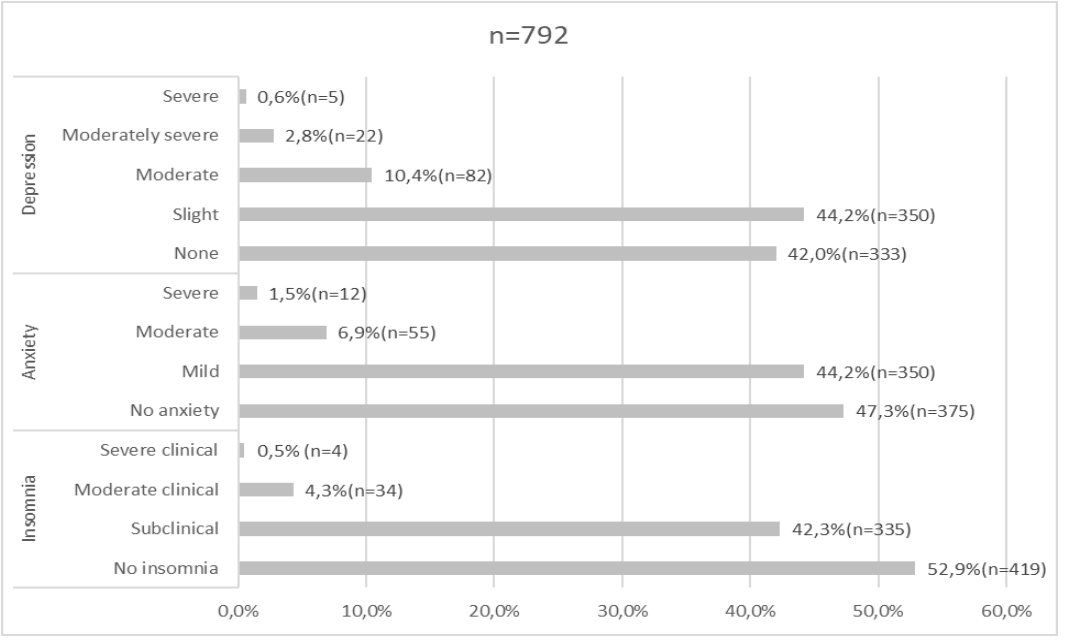

Table 3. Depression, anxiety and insomnia in Peruvian university students

Variables	Depression			Anxiety			Insomnia		
	Yes	No	p-value	Yes	No	p-value	Yes	No	p-value
	n (%)	n (%)		n (%)	n (%)		n (%)	n (%)	
Total	459(58.0)	333(42.0)		417(52.7)	375(47.3)		373(47.1)	419(52.9)	
Age (years)									
15 a 19	50(58.8)	35(41.2)	0.837	49(57.6)	36(42.4)	0.560	57(67.1)	28(32.9)	<0.001
20 a 24	340(58.6)	240(41.4)		305(52.6)	275(47.4)		265(45.7)	315(54.3)	
25 a 29	51(54.8)	42(45.2)		44(47.3)	49(52.7)		43(46.2)	50(53.8)	
≥30	18(52.9)	16(47.1)		19(55.9)	15(44.1)		8(23.5)	26(76.5)	
Sex									
Female	279(63.6)	160(36.4)	<0.001	266(60.6)	173(39.4)	<0.001	228(51.9)	211(48.1)	0.002
Male	180(51.0)	173(49.0)		151(42.8)	202(57.2)		145(41.1)	208(58.9)	
Marital status									
Married/cohabiting	15(78.9)	4(21.1)	0.271	13(68.4)	6(31.6)	0.535	10(52.6)	9(47.4)	0.870
Separated	10(58.8)	7(41.2)		8(47.1)	9(52.9)		9(52.9)	8(47.1)	
With partner	115(59.3)	79(40.7)		103(53.1)	91(46.9)		88(45.4)	106(54.6)	
Without partner	319(56.8)	243(43.2)		293(52.1)	269(47.9)		266(47.3)	296(52.7)	
History of medical illness									
Yes	119(70.0)	51(30.0)	<0.001	113(66.5)	57(33.5)	<0.001	106(62.4)	64(37.6)	<0.001
No	340(54.7)	282(45.3)		304(48.9)	318(51.1)		267(42.9)	355(57.1)	
History of mental health disorder									
Yes	90(67.2)	44(32.8)	0.018	74(55.2)	60(44.8)	0.513	72(53.7)	62(36.3)	0.091
No	369(56.1)	289(43.9)		343(52.1)	315(47.9)		301(45.7)	357(54.3)	
Personal history of COVID-19									
Si	232(56.7)	177(43.3)	0.468	214(52.3)	195(47.7)	0.848	197(48.2)	212(51.8)	0.533
No	227(59.3)	156(40.7)		203(53.0)	180(47.0)		176(46.0)	207(54.0)	
Family history of									

COVID-19									
Yes	360(59.4)	246(40.6)	0.135	339(55.9)	267(44.1)	0.001	313(51.7)	293(48.3)	<0.001
No	99(53.2)	87(46.8)		78(41.9)	108(58.1)		60(32.3)	126(67.7)	
History of COVID-19 in other people									
Yes	361(60.8)	233(39.2)	0.005	334(56.2)	260(43.8)	<0.001	316(53.2)	278(46.8)	<0.001
No	98(49.5)	100(50.5)		83(41.9)	115(58.1)		57(28.8)	141(71.2)	
Employment status									
Only studying	233(60.2)	154(39.8)	0.441	221(57.1)	166(42.9)	0.037	203(52.5)	184(47.5)	0.013
Studying and working in the health sector	72(56.7)	55(43.3)		65(51.2)	62(48.8)		54(42.5)	73(57.5)	
Studying and working in another sector	154(55.4)	124(44.6)		131(47.1)	147(52.9)		116(41.7)	162(58.3)	
Social media activity									
Yes	292(61.5)	183(38.5)	0.014	276(58.1)	199(41.9)	<0.001	241(50.7)	234(49.3)	0.012
No	167(52.7)	150(47.3)		141(44.5)	176(55.5)		132(41.6)	185(58.4)	
Type of university									
State	131(60.9)	84(39.1)	0.300	115(53.5)	100(46.5)	0.773	108(50.2)	107(49.8)	0.280
Private	328(56.8)	249(43.2)		302(52.3)	275(47.7)		265(45.9)	312(54.1)	
University location									
Lima city	336(58.6)	237(41.4)	0.528	312(54.5)	261(45.5)	0.101	274(47.8)	299(52.2)	0.510
Other cities	123(56.2)	96(43.8)		105(47.9)	114(52.1)		99(45.2)	120(54.8)	
Professional career									
Health	291(58.8)	204(41.2)	0.001	264(53.3)	231(46.7)	0.003	249(50.3)	246(49.7)	0.007
Not health	137(52.5)	124(47.5)		125(47.9)	136(52.1)		103(39.5)	158(60.5)	
Not precise	31(86.1)	5(13.9)		28(77.8)	8(22.2)		21(58.3)	15(41.7)	

Table 4. Risk factors for depression, anxiety and insomnia in Peruvian university students

Factors	Depression			Anxiety			Insomnia		
	ORc	ORa	IC95%	ORc	ORa	IC95%	ORc	ORa	IC95%
Age	1.19	1.16	0.78-1.74	1.16	1.08	0.72-1.63	1.40	1.30	0.86-1.97
Female sex	1.68	1.55	1.16-2.08	2.06	1.90	1.42-2.55	1.55	1.42	1.06-1.92
Medical illness	1.94	1.78	1.22-2.60	2.07	1.82	1.26-2.63	2.20	1.79	1.24-2.58
Mental health	1.60	1.54	1.04-2.31	1.13	1.05	0.71-1.55	1.38	1.31	0.88-1.94
Personal COVID-19	0.90	0.89	0.66-1.19	0.97	0.98	0.73-1.32	1.09	1.09	0.81-1.46
Family COVID-19	1.29	1.09	0.76-1.55	1.76	1.45	1.01-2.08	2.24	1.71	1.18-2.48
COVID-19 in others	1.58	1.31	0.92-1.86	1.78	1.33	0.93-1.90	2.81	2.19	1.51-3.17
Student	1.20	1.12	0.83-1.51	1.42	1.37	1.02-1.85	1.53	1.45	1.07-1.96
Social networks	1.43	1.23	0.91-1.67	1.73	1.43	1.06-1.94	1.44	1.14	0.84-1.56

ORc: Crude Odds Ratio, ORa: Adjusted Odds Ratio.