







Moderate or major anxiety and depression versus high alcohol consumption in women in Honduras

Eleonora Espinoza-Turcios^{1,2*} , Carlos Antonio Sosa-Mendoza^{2,3} , Lysien Ivania Zambrano^{1,4} ,
Henry Noel Castro-Ramos¹ , José Armada⁵ , Christian R Mejia⁶ 

¹ Faculty of Medical Sciences, National Autonomous University of Honduras, Tegucigalpa, HONDURAS

² Grupo de Salud Mental, Faculty of Medical Sciences, National Autonomous University of Honduras, Tegucigalpa, HONDURAS

³ Honduran Institute for the Prevention of Alcoholism, Drug Addiction and Drug Dependency, Tegucigalpa, HONDURAS

⁴ Grupo de Investigacion GRINVAR, HONDURAS

⁵ Faculty of Business Sciences, Universidad Continental, Huancayo, PERU

⁶ Universidad de Huánuco, Huánuco, PERU

*Corresponding Author: eleonora.espinoza@unah.edu.hn

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ABSTRACT

Introduction: The role of women in society is diverse and fundamental.

Objectives: To determine whether anxiety and moderate or major depression were associated with high alcohol consumption in Honduran women.

Methods: A cross-sectional and analytic study was conducted using the self-reporting questionnaire test as a screening tool for anxiety, depression, and alcohol consumption.

Results: Moderate or greater anxiety was more frequent among those with high alcohol consumption (aPR: 1.49; 95% CI: 1.09-2.04; p=0.013), was also frequent among those reporting violence at home (aPR: 1.63; 95% confidence interval [CI]: 1.36-1.94; p<0.001) and some history of mental pathology at home (aPR: 1.64; 95% CI: 1.44-1.87; p<0.001). Moderate or major depression was more frequent among those reporting violence at home (aPR: 1.54; 95% CI: 1.30-1.83; p<0.001) and having some history of mental pathology at home (aPR: 1.38; 95% CI: 1.18-1.63; p<0.001).

Conclusions: A significant association was observed between anxiety and high alcohol consumption in this population of women from Honduras.

Keywords: anxiety, alcohol consumption, depression, Honduras, women

INTRODUCTION

Approximately half of the world's population is comprised of women, making their perspectives, experiences and contributions are essential to understanding and addressing the challenges facing society [1].

Women not only play a critical role in caring for children, the elderly, and other vulnerable members of society, but their work as caregivers is also essential to the well-being of individuals and the wider community [2]. In relation to mental health illnesses women are twice as likely to be diagnosed with generalized anxiety disorder as they are twice as likely to suffer from depression, WHO reports that depression is the leading cause of disability worldwide for women [3].

Alcohol consumption among women has steadily increased over the past 30 years and is now similar to that of men [4]. In 2016, alcohol consumption was the leading risk factor globally for the population aged 15-49, with 3.8% of female deaths and 12.2% of male deaths attributable to alcohol consumption [5]. In Mexico, there has been a significant

increase in the prevalence of alcohol consumption among women, rising from 33.5% in 2018 to 42.5% in 2020 [6].

The profile of alcohol consumption, the course and prognosis of the problems derived from alcohol abuse is associated with the different gender roles, the male role is characterized by dominance, 'Don Juanismo', aggressiveness, and other risk behaviors that are related to greater alcohol consumption. In contrast, the female role is characterized by an interest in home life and family care, which are associated with lower alcohol consumption.

This evidence highlights the relationship between gender and alcohol consumption [7]. Alcohol abuse can lead to various pathological and psychological consequences, including alcohol use disorder (AUD). Although predominant in men, growing evidence suggests that women also experience cognitive and biological consequences of alcohol dependence [8].

In Honduras, according to the national demographic and health survey (ENDESA/MICS 2019), 9.0% of the 19,279 women aged 15 to 49 who were surveyed reported consuming alcohol in the last month [9]. Anxiety, depression and alcohol use are

Table 1. Percentage of responses to third section of SRQ test for at-risk alcohol consumption (n=9,962)

Question	No (%)	Yes (%)
Have you ever thought to your family, friends, doctor, or priest that you were drinking too much liquor?	97.8	2.2
Have you ever wanted to stop drinking, but could not?	98.7	1.3
Have you ever had difficulties at work (or school) because of drinking, such as drinking at work or school or failing at them?	99.2	0.8
Have you been in fights, or have you been arrested while drunk?	99.1	0.9
Have you ever thought you drank too much?	97.8	2.2

prevalent and, in many cases, difficult to diagnose and treat. In Honduras, alcohol consumption and its association as anxiety and depression in women at the national level has not been studied, there are specific studies in the population of specific communities, so the objective of this study was to determine if anxiety and moderate or major depression were associated with high alcohol consumption in Honduran women [10].

METHODS

This study was approved by the Ethics Committee in Biomedical Research, approved in the session of December 20, 2019, with registration number: 064-2019, with written informed consent. Doctors in social service (MSS) received an online course of good clinical practices from Global Health Network (www.tghn.org).

The study utilized a cross-sectional descriptive design to examine associations. The sample consisted of 70 women per MSS, totaling 9,962 female participants. Inclusion criteria required women to be between the ages of 18-49, possess a national identification document (DNI) or birth certificate, and provide written informed consent. Among the exclusion criteria are women who are under 18 years old or over 49 years old, those with physical and/or mental disabilities that prevent them from providing information, individuals who are under the influence of drugs or alcohol, those who do not speak Spanish, and those who do not provide informed consent. This methodology was implemented by faculty of medical sciences at Autonomous University of Honduras (FCM/UNAH) [11].

A search for women was conducted in all departments of the country within the areas of influence of Doctors in Social Work. The instrument used was identified with a numerical code and included general data, related factors, and an initial screening using the self-reporting questionnaire (SRQ) to identify individuals with depression, anxiety, and alcohol consumption through an interview. If SRQ scale was positive in any of its three sections, depression scales and Hamilton's anxiety were administered.

Two programs were used to process the data, the first was Microsoft Excel (2019 version), which was used mainly for the initial management of the data, quality control and everything prior to the analysis; and the second was the Stata statistical package (version 16), which was used to perform univariate, bivariate and multivariate analysis.

Test

SRQ, a questionnaire created by WHO in 1980, we use the version adapted in Spanish for Colombian population [12]. The questionnaire consists of 30 questions that assess depression, mild and moderate distress, psychotic disorders, compulsive disorder, alcoholism, or alcohol abuse.

Hamilton scale for depression, which was described by German psychiatrist Max Hamilton in 1960 for the first time [13]. Total scale score ranges from zero points (no depressive

symptoms) to 66 (severe depressive symptoms). Hamilton depression scale became and remained the "gold standard" tool for assessing the severity of depression [14]. In our study we used the scale validated for Spain [15], and the Hamilton anxiety scale is a self-administered scale, the total score of the instrument, where the severity of the symptoms is evaluated using five ordinal response options (zero: absence of symptom, up to four: very severe or disabling symptom), which is obtained by the sum of the partial scores of the 14 items, can range from zero points (absence of anxiety) to 56 (maximum degree of anxiety) we use the version for this study by [16].

In the initial database, 11,397 records were obtained in the purification process, 1,435 were eliminated for not having the complete DNI and incomplete variables, leaving a total of 9,962, for the analysis of this manuscript. For the statistical analysis, a descriptive table was first created, where the measures of central tendency and dispersion for the age variable were generated, as well as the frequencies and percentages for the categorical variables. Subsequently, a couple of more tables were elaborated, and the final tables were generated, where the analytical statistics were carried out; this with the use of generalized linear models (Poisson family, log link function, models for robust variances, and with adjustment by the department of residence). In this last part, PR (prevalence ratios), 95% confidence interval [CI] and p-values were obtained. It is important to mention that $p < 0.05$ value was taken as a criterion for a variable to move from the bivariate to the multivariate model, as well as for statistical significance to be considered in the final model.

RESULTS

Of the 9,962 women who were interviewed, the median age was 29 years (interquartile range: 23-36), 47.2% were in a free union, 43.5% had secondary education, 65.3% lived in urban areas, 4.5% had a history of domestic violence, 7.3% had a family member with mental illness, 0.8% were at risk of alcohol use. Of those who met criteria for assessment of depression or anxiety, 24.3% and 36.5% had anxiety and moderate or major depression, respectively, Variable taken as quantitative. Anxiety and depression were measured with the Hamilton test and alcohol risk with SRQ test.

In the third section, which evaluates high alcohol consumption, did you ever find that you drank too much? 2.2% said they were drinking too much, the same percentage said their family, friends, doctor or priest thought they drank too much liquor and 1.3% ever wanted to stop drinking but could not (**Table 1**).

When evaluating levels of anxiety and depression using the positive criteria of SRQ scale, it is noteworthy that individuals meeting all three criteria exhibited high levels of anxiety and severe depression (37.5% for both anxiety and depression) with a subset experiencing very severe symptoms (12.5% and 37.5% for anxiety and depression, respectively) (**Table 2**).

Table 2. Percentage of anxiety & depression levels according to positive criteria for SRQ scale (n=9,962)

SRQ positive	It does not have (%)	Slight (%)	Moderate (%)	Severe (%)	Very severe (%)
Anxiety					
None	7.4	77.8	7.4	7.4	0.0
One	4.4	81.3	10.5	3.1	0.7
Two	0.2	50.0	26.5	13.3	10.0
All three	0.0	25.0	25.0	37.5	12.5
Depression					
None	37.0	40.8	22.2	0.0	0.0
One	46.5	29.5	12.3	5.9	5.8
Two	8.4	22.7	23.1	15.1	30.7
All three	0.0	18.8	6.2	37.5	37.5

Note. Anxiety & depression were measured with Hamilton test

Table 3. Moderate/major anxiety vs. risky alcohol consumption & other socio-educational variables in Honduran women (n=9,962)

Variables	Anxiety dwelling or more		Bivariate analysis	Multivariate analysis
	No: n (%)	Yes: n (%)	RPc (95% CI) p-value	RPc (95% CI) p-value
Age (years)*	29 (23-37)	28 (22-38)	0.99 (0.99-1.01) 0.771	Did not enter the model
Marital status				
Common-law marriage	545 (75.8)	174 (24.2)	Comparison	Did not enter the model
Single	509 (75.4)	166 (24.6)	1.02 (0.78-1.32) 0.904	Did not enter the model
Married	195 (75.6)	63 (24.4)	1.01 (0.80-1.27) 0.940	Did not enter the model
Other	25 (78.1)	7 (21.9)	0.90 (0.52-1.57) 0.719	Did not enter the model
Education				
No	47 (77.1)	14 (22.9)	Comparison	Did not enter the model
Primary	392 (74.1)	137 (25.9)	1.13 (0.74-1.72) 0.574	Did not enter the model
High school	545 (76.0)	172 (24.0)	1.05 (0.75-1.47) 0.798	Did not enter the model
University	290 (76.9)	87 (23.1)	1.01 (0.66-1.53) 0.980	Did not enter the model
Resides in				
Rural	389 (74.7)	132 (25.3)	Comparison	Did not enter the model
Urban	885 (76.1)	278 (23.9)	0.94 (0.70-1.28) 0.708	Did not enter the model
Violence at home				
No	1135(77.7)	325 (22.3)	Comparison	Comparison
Yes	139 (62.1)	85 (37.9)	1.70 (1.42-2.04)<0.001	1.63 (1.36-1.94)<0.001
Mental pathology				
No	1123(78.0)	317 (22.0)	Comparison	Comparison
Yes, with family	151 (61.9)	93 (38.1)	1.73 (1.51-1.99)<0.001	1.64 (1.44-1.87)<0.001
Alcohol risk				
No	1224(76.2)	383 (23.8)	Comparison	Comparison
Yes	50 (64.9)	27 (35.1)	1.47 (1.05-2.06) 0.024	1.49 (1.09-2.04) 0.013

Note. Variable taken as quantitative; Anxiety was measured with Hamilton test & alcohol risk with SRQ test; PR (prevalence ratios); & 95% CIs & p-values were obtained with generalized linear models (Poisson family, log link function, models for robust variances, & with adjustment by department of residence)

Moderate or greater anxiety was more frequent among those with at-risk alcohol use (aPR: 1.49; 95% CI: 1.09-2.04; $p=0.013$), in addition, it was also frequent among those who reported violence at home (aPR: 1.63; 95% CI: 1.36-1.94; $p<0.001$) and some history of mental pathology at home (aPR: 1.64; 95% CI: 1.44-1.87; $p<0.001$) (**Table 3**).

Moderate or major depression was more common among those reporting violence at home (aPR: 1.54; 95% CI: 1.30-1.83; $p<0.001$) and according to having some history of mental pathology at home (aPR: 1.38; 95% CI: 1.18-1.63; $p<0.001$) (**Table 4**).

DISCUSSION

The aim of the study was to determine whether anxiety and moderate or major depression were associated with high alcohol consumption in Honduran women. Studying the situation is important for the country because there is a lack of national-level research on alcohol consumption among women, which is often stigmatized.

It was conducted a study in five Honduran communities with a sample of 1,629 women over 15 years of age [17]. The study found that 45.2% of women experienced domestic violence, with 52.0% experiencing verbal abuse, 20.5% experiencing physical abuse, and 19.0% experiencing sexual abuse. The violence was more prevalent in women under 39 years of age who were in a free union, had primary schooling, and had children. The aggressor was under the influence of alcohol or other drugs during the violence, which turned the home into a center of danger for the woman and children [17].

Domestic violence in Honduras takes various forms and is influenced by multiple factors, including socioeconomic, cultural, and religious factors. It is a serious social problem with severe consequences, particularly for women who experience violence both as community members and as vulnerable individuals.

In a study conducted in the community of Porvenir San Nicolas in the department of Copan, it was found that out of 153 women over the age of 16 who had partners, 79 had experienced domestic violence. 1.0% of the participants reported experiencing domestic violence. Of those, 39.7%

Table 4. Moderate/major depression vs. risky alcohol consumption & other socio-educational variables in Honduran women (n=9,962)

Variables	Moderate depression or more		Bivariate analysis	Multivariate analysis
	No: n (%)	Yes: n (%)	RPc (95% CI) p-value	RPc (95% CI) p-value
Age (years)*	29 (23-37)	29 (22-37)	1.00 (0.99-1.01) 0.599	Did not enter the model
Marital status				
Common-law marriage	464 (64.5)	255 (35.5)	Comparison	Did not enter the model
Single	416 (61.6)	259 (38.4)	1.08 (0.91-1.29) 0.370	Did not enter the model
Married	171 (66.3)	87 (33.7)	0.95 (0.72-1.26) 0.727	Did not enter the model
Other	18 (56.3)	14 (43.7)	1.23 (0.83-1.84) 0.302	Did not enter the model
Education				
No	35 (57.4)	26 (42.6)	Comparison	Did not enter the model
Primary	321 (60.7)	208 (39.3)	0.92 (0.69-1.24) 0.590	Did not enter the model
High school	469 (65.4)	248 (34.6)	0.81 (0.60-1.10) 0.179	Did not enter the model
University	244 (64.7)	133 (35.3)	0.83 (0.61-1.13) 0.236	Did not enter the model
Resides in				
Rural	320 (61.4)	201 (38.6)	Comparison	Did not enter the model
Urban	749 (64.4)	414 (35.6)	0.92 (0.79-1.08) 0.319	Did not enter the model
Violence at home				
No	966 (66.2)	494 (33.8)	Comparison	Comparison
Yes	103 (46.0)	121 (54.0)	1.60(1.36-1.87)<0.001	1.54 (1.30-1.83)<0.001
Mental pathology				
No	946 (65.7)	494 (34.3)	Comparison	Comparison
Yes, with family	123 (50.4)	121 (49.6)	1.45 (1.21-1.73)<0.001	1.38 (1.18-1.63)<0.001
Alcohol risk				
No	1,028 (64.0)	579 (36.0)	Comparison	Did not enter the model
Yes	41 (53.3)	36 (46.7)	1.30 (1.00-1.68) 0.050	Did not enter the model

Note. Variable taken as quantitative; Anxiety was measured with Hamilton test & alcohol risk with SRQ test; PR (prevalence ratios); & 95% CIs & p-values were obtained with generalized linear models (Poisson family, log link function, models for robust variances, & with adjustment by department of residence)

reported experiencing economic violence. The majority of participants who experienced domestic violence were between the ages of 31 and 40 (29.6%) and married (52.9%). Additionally, 53.7% of participants had incomplete primary education and 38.8% were housewives. Furthermore, 59.5% of participants reported having no income. Only 9.1% of participants who experienced domestic violence made a complaint, while 83.5% reported not consuming alcohol [18].

A study conducted in Ecuador involved 663 adolescents aged between 13 and 20 years. The study found a significant relationship between adolescents at risk of alcohol and tobacco consumption and symptoms of anxiety and depression. Women were found to be more likely to present symptoms of depression and anxiety than men [19].

There is a strong association between anxiety versus risky alcohol use, Esmaelzadeh et al, found significant associations between anxiety and alcohol consumption [20], studies show that anxiety disorders are more common among women, while AUD is more common among men [21], a study of Canadian adults through an online survey in May 2020, found that women were more likely to increase alcohol consumption (41.0%) and anxiety, during the COVID-19 pandemic [22]. AUD and anxiety disorders (AnxD) are prevalent health problems that frequently coexist (AUD-AnxD) and are combined with each other [23], with evidence that for women experiencing intimate partner violence (IPV), psychological therapies likely reduce depression and may reduce anxiety [24].

In Chile, anxiety disorders are reportedly the most prevalent, followed by major depression and AUDs. Comorbidity occurs in 27.0% of those with disorders, but only 7.0% have three or more diagnoses [25]. It was found in 1,074 undergraduate students (71.0% women and 29.0% men) aged 18 to 42, that being a woman, frequently consuming alcohol was associated with anxiety [26]. A 2022 meta-analysis

reported that unemployed women have a 3.7 times higher risk of dying from a cause of death attributable to alcohol compared to employed women [27].

No association was found between depression and risky alcohol use, according to WHO, depression is a common mental disorder, it is estimated worldwide that 5.0% of adults suffer from depression [28]. This study differs from that reported in other studies that have found an association between alcohol consumption and depression, in 3,007 Brazilians aged 14 years and older found in women, alcohol dependence and the presence of one or more problems related to alcohol consumption were associated with increased risks of major/severe depressive symptoms [29], in a meta-analysis by Humphreys of 190 studies in 68,830 individuals, he showed the importance between suffering from depression and having experienced childhood abuse, with a greater association with the type of emotional abuse and depression being physical and sexual abuse and physical neglect having a lower association [30].

A large association of such mental pathologies was also found with having a history of violence at home, because of the COVID-19 pandemic, it is believed that some 243 million women have experienced sexual or physical abuse at the hands of an intimate partner at some point during the last 12 months, these women have been trapped with their abuser. A week after France declared its lockdown, reports of domestic violence had increased by 30.0% [31]. Women may be particularly vulnerable to IPV victimization in the context of intoxication, which may also explain the unique associations between sexual IPV and alcohol problems [32]. Violence against women is associated with various difficulties of psychological functioning and emotional well-being, many women need protection from their abuser and initiate contacts with confidential domestic violence shelters [33].

Studies of interpersonal trauma and substance abuse in women have shown a strong association between the two conditions, a history of interpersonal trauma increases the risk of substance abuse, the majority (72.0%, 336/465) of the sample reported physical or sexual abuse in the past; of these, 75.0% had experienced abuse for the first time as children (aged 17 and under), we speculate that the life consequences related to substance use are not mediated only by drug and/or alcohol use [34].

The meta-analysis published in 2022 demonstrated that the long-term effects of IPV have negative effects on physical health outcomes for women, drug and alcohol abuse and developing chronic diseases and pain [35]. In Honduras according to ENDESA/MICS 2019, 20.0% of women aged 15-49 have ever been beaten or physically abused by someone after the age of 15, 23.0% have experienced physical violence by: their husband/partner (very often when drunk 42.0%) and their mother/stepmother 23.0%; 20.0% by their ex-husband/partner; 18.0% of the father/stepfather; 14.0% the ex-boyfriend, 13.0% other family member and, by a sibling in 12.0% [9].

Another important association is that both mental pathologies: anxiety and depression were associated with the fact that in the respondent's family, there has been some diagnosis of a problem in the mental sphere, people with common mental disorders (depression, anxiety, and phobia) are twice as likely to report an AUD, then people without common mental disorders [36]. In Tunisia in a study with 751 participants, where women who had a history of mental illness and who allegedly suffered abuse during lockdown during the COVID-19 pandemic had more severe symptoms of depression, anxiety and stress [37].

A key result is that those who had the three criteria of SRQ test had higher percentages of depression and anxiety, in severe or very severe degrees, In a study in Honduras that used SRQ in 1,306 participants, anxiety showed the highest prevalence and a prevalence for depression of 13.2%, the symptoms that had the highest frequency were: headaches with 29.4%; feel nervous, tense or bored at 28.1% and easily frightened at 23.9% [38].

Husain N and et al, validated SRQ 20 self-report questionnaire in Pakistani British and white European population in the UK in 415 men, 517 women concluded that SRQ can be used as a routine screening questionnaire for depression in English and Urdu speaking populations in the UK, The same for the Chinese community, SRQ-20 is a reliable and valid measure of mental disorders, although in this study it was used as a screening test and the diagnoses of depression and anxiety were confirmed with Hamilton scales [39, 40]. Among the risk and protective factors for mental health are identified social factors, lifestyle, physical health, body mass index, diabetes mellitus, genetic and biological factors, which [41] shows the importance of generating screening programs with tools like this, which can help detect pathologies of this type and establish management behaviors of this problem.

We cannot forget the recent COVID-19 pandemic produced an increase in mental health illnesses as in the study carried out in 2021, in Peru, by Quispe-Sancho, depression was associated with the number of children, while anxiety was associated with being a doctor. [42]

Limitations

The information was collected in the first quarter of 2020, coinciding with the beginning of the COVID-19 pandemic in the country. Due to the confinement measures, the analysis of the information had to be started in person and continued online. However, records were incomplete as 1,435 entries were excluded due to incomplete filling of DNI.

CONCLUSIONS

Moderate or greater anxiety was more frequent among individuals with risky alcohol consumption. Additionally, it was also common among those who reported experiencing violence at home and had a history of mental illness.

SRQ scale showed high levels of anxiety and severe depression, with very severe levels for both pathologies in this population of women from Honduras.

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Declaration of interest: No conflict of interest is declared by authors.

Data sharing statement: Data supporting the findings and conclusions are available upon request from the corresponding author.

REFERENCES

1. UN. World population prospects: The 2008 revision. United Nations; 2008. Available at: https://www.un.org/development/desa/pd/sites/www.un.org.development.de.sa.pd/files/files/documents/2020/Jan/un_2008_world_population_prospects-2008_revision_volume-ii.pdf (Accessed: 26 December 2023).
2. Fonseca Mardones IE. Influencia del género en la salud de las mujeres cuidadoras familiares [Influencia del género en la salud de las mujeres cuidadoras familiares]. *Rev Chil Ter Ocup.* 2020;20(2):211-9. <https://doi.org/10.5354/0719-5346.2020.51517>
3. WHO. Mental health atlas. World Health Organization; 2005. Available at: <https://www.who.int/teams/mental-health-and-substance-use/data-research/mental-health-atlas> (Accessed: 26 December 2023).
4. Iwamoto DK, Corbin W, Takamatsu S, Castellanos J. The association between multidimensional feminine norms, binge drinking and alcohol-related problems among young adult college women. *Addict Behav.* 2018;76:243-9. <https://doi.org/10.1016/j.addbeh.2017.08.016> PMID: 28865362

5. Sohi I, Chrystoja BR, Rehm J, et al. Changes in alcohol use during the COVID-19 pandemic and previous pandemics: A systematic review. *Alcohol Clin Exp Res.* 2022;46(4):498-513. <https://doi.org/10.1111/acer.14792> PMID:35412673 PMCID:PMC9111333
6. Barrera-Núñez DA, Rengifo-Reina HA, López-Olmedo N, Barrientos-Gutiérrez T, Reynales-Shigematsu LM. Cambios en los patrones de consumo de alcohol y tabaco antes y durante la pandemia de COVID-19. *Ensanut 2018 y 2020 [Changes in alcohol and tobacco consumption patterns before and during the COVID-19 pandemic. Ensanut 2018 and 2020]. Salud Publica Mex.* 2022;64(2):137-47. <https://doi.org/10.21149/12846> PMID:35438929
7. Patró-Hernández RM, Nieto Robles Y, Limiñana-Gras RM. Relación entre las normas de género y el consumo de alcohol: Una revisión sistemática [Relationship between gender norms and alcohol consumption: A systematic review]. *Adicciones.* 2020;32(2):145-58. <https://doi.org/10.20882/adicciones.1195> PMID:31018007
8. Casanova Ferrer F, Pascual M, Hidalgo MR, Malmierca-Merlo P, Guerri C, García-García F. Unveiling sex-based differences in the effects of alcohol abuse: A comprehensive functional meta-analysis of transcriptomic studies. *Genes (Basel).* 2020;11(9):1106. <https://doi.org/10.3390/genes11091106> PMID:32967293 PMCID:PMC7564639
9. INE. Encuesta nacional de demografía y salud/encuesta de indicadores múltiples por conglomerados (Endesa/Mics 2019) [National demographic and health survey/multiple indicator cluster survey (Endesa/Mics 2019)]. Instituto Nacional de Estadísticas [National Statistics Institute]; 2019. Available at: <https://www.ine.gov.hk/V3/imagdoc/2021/10/Informe-ENDESA-MICS-2019.pdf> (Accessed: 26 December 2023).
10. Nielsen B, Andersen K. [Alcohol, anxiety, and depression]. *Ugeskr Laeger.* 2022;184(14):V10210816.
11. Espinoza-Turcios E, Gonzales-Romero RM, Sosa-Mendoza C, et al. Factors associated with hopelessness, depression and anxiety in the Honduran-Central America population during the COVID-19 pandemic. *Front Psychiatry.* 2023; 14:1116881. <https://doi.org/10.3389/fpsy.2023.1116881> PMID:36937724 PMCID:PMC10014751
12. WHO. A user's guide to the self reporting questionnaire (SRQ). World Health Organization; 1994. Available at: <https://www.infontd.org/resource/users-guide-self-reporting-questionnaire-srq> (Accessed: 26 December 2023).
13. Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry.* 1960;23(1):56-62. <https://doi.org/10.1136/jnnp.23.1.56> PMID:14399272 PMCID:PMC495331
14. Worboys M. The Hamilton rating scale for depression: The making of a "gold standard" and the unmaking of a chronic illness, 1960-1980. *Chronic Illn.* 2013;9(3):202-19. <https://doi.org/10.1177/1742395312467658> PMID:23172888 PMCID:PMC3837544
15. Ramos-Brieva JA, Cordero-Villafafila A. A new validation of the Hamilton rating scale for depression. *J Psychiatr Res.* 1988;22(1):21-8. [https://doi.org/10.1016/0022-3956\(88\)90024-6](https://doi.org/10.1016/0022-3956(88)90024-6) PMID:3397906
16. Lobo A, Chamorro L, Luque A, Dal-Ré R, Badia X, Baró E. [Validation of the Spanish versions of the Montgomery-Asberg depression and Hamilton anxiety rating scales]. *Med Clin (Barc).* 2002;118(13):493-9. [https://doi.org/10.1016/S0025-7753\(02\)72429-9](https://doi.org/10.1016/S0025-7753(02)72429-9)
17. Zavala GL, Montoya-Reales DA. Violencia contra la mujer en la relación de pareja; caracterización en cinco comunidades de Honduras [Violence against women in a relationship; characterization in five communities in Honduras]. *Rev Fac Cienc Méd.* 2017;14(2):16-27.
18. Chavarria-Mejia J, Calix-Pineda D, Vasquez-Bonilla WO. Caracterización de violencia doméstica en mujeres mayores de 16 años con compañero en comunidad de Honduras 2016 [Violence against women in a relationship; characterization in five communities in Honduras 2016]. *CIMEL.* 2017;22(1). <https://doi.org/10.23961/cimel.v22i1.740>
19. Valarezo-Bravo OF, Erazo-Castro RF, Muñoz-Vinces ZM. Síntomas de ansiedad y depresión asociados a los niveles de riesgo del consumo de alcohol y tabaco en adolescentes de la ciudad de Loja, Ecuador [Symptoms of anxiety and depression associated with risk levels of alcohol and tobacco consumption in adolescents from the city of Loja, Ecuador]. *Health Addict.* 2021;21(1):279-93. <https://doi.org/10.21134/haaj.v21i1.584>
20. Esmaeelzadeh S, Moraros J, Thorpe L, Bird Y. Examining the association and directionality between mental health disorders and substance use among adolescents and young adults in the US and Canada-A systematic review and meta-analysis. *J Clin Med.* 2018;7(12):543. <https://doi.org/10.3390/jcm7120543> PMID:30551577 PMCID:PMC6306768
21. Hasin DS, Stinson FS, Ogburn E, Grant BF. Prevalence, correlates, disability, and comorbidity of DSM-IV alcohol abuse and dependence in the United States: Results from the national epidemiologic survey on alcohol and related conditions. *Arch Gen Psychiatry.* 2007;64(7):830-42. <https://doi.org/10.1001/archpsyc.64.7.830> PMID:17606817
22. Mougharbel F, Sampasa-Kanyinga H, Heindinger B, Corace K, Hamilton HA, Goldfield GS. Psychological and demographic determinants of substance use and mental health during the COVID-19 pandemic. *Front Public Health.* 2021;9:680028. <https://doi.org/10.3389/fpubh.2021.680028> PMID:34249844 PMCID:PMC8270652
23. Mocanu V, Wood E. Alcohol use disorder with comorbid anxiety disorder: A case report and focused literature review. *Addict Sci Clin Pract.* 2022;17(1):62. <https://doi.org/10.1186/s13722-022-00344-z> PMID:36348370 PMCID:PMC9644470
24. Hameed M, O'Doherty L, Gilchrist G, et al. Psychological therapies for women who experience intimate partner violence. *Cochrane Database Syst Rev.* 2020;7(7):CD013017. <https://doi.org/10.1002/14651858.CD013017.pub2> PMID:32608505 PMCID:PMC7390063
25. Vicente B, Saldivia S, Pihán R. Prevalencias y brechas hoy: Salud mental mañana [Prevalences and gaps today: Mental health tomorrow]. *Acta Bioeth.* 2016;22(1):51-61. <https://doi.org/10.4067/S1726-569X2016000100006>
26. Ramón-Arbués E, Gea-Caballero V, Granada-López JM, Juárez-Vela R, Pellicer-García B, Antón-Solanas I. The prevalence of depression, anxiety and stress and their associated factors in college students. *Int J Environ Res Public Health.* 2020;17(19):7001. <https://doi.org/10.3390/ijerph17197001> PMID:32987932 PMCID:PMC7579351
27. Saul C, Lange S, Probst C. Employment status and alcohol-attributable mortality risk-A systematic review and meta-analysis. *Int J Environ Res Public Health.* 2022;19(12):7354. <https://doi.org/10.3390/ijerph19127354> PMID:35742600 PMCID:PMC9224380

28. WHO. Depression. World Health Organization; 2021. Available at: <https://www.who.int/news-room/fact-sheets/detail/depression> (Accessed: 26 December 2023).
29. Carpena MX, Dumith SC, de Mola CL, Neiva-Silva L. Sociodemographic, behavioral, and health-related risk factors for depression among men and women in a southern Brazilian city. *Braz J Psychiatry*. 2019;41(5):396-402. <https://doi.org/10.1590/1516-4446-2018-0135> PMID:30758433 PMCID:PMC6796819
30. Humphreys KL, LeMoult J, Wear JG, Piersiak HA, Lee A, Gotlib IH. Child maltreatment and depression: A meta-analysis of studies using the childhood trauma questionnaire. *Child Abuse Negl*. 2020;102:104361. <https://doi.org/10.1016/j.chiabu.2020.104361> PMID:32062423 PMCID:PMC7081433
31. Burki T. The indirect impact of COVID-19 on women. *Lancet Infect Dis*. 2020;20(8):904-5. [https://doi.org/10.1016/S1473-3099\(20\)30568-5](https://doi.org/10.1016/S1473-3099(20)30568-5) PMID:32738239
32. Flanagan JC, Jaquier V, Overstreet N, Swan SC, Sullivan TP. The mediating role of avoidance coping between intimate partner violence (IPV) victimization, mental health, and substance abuse among women experiencing bidirectional IPV. *Psychiatry Res*. 2014;220(1-2):391-6. <https://doi.org/10.1016/j.psychres.2014.07.065> PMID:25174851 PMCID:PMC4252854
33. Karakurt G, Smith D, Whiting J. Impact of intimate partner violence on women's mental health. *J Fam Viol*. 2014; 29(7):693-702. <https://doi.org/10.1007/s10896-014-9633-2> PMID:25313269 PMCID:PMC4193378
34. Liebschutz J, Savetsky JB, Saitz R, Horton NJ, Lloyd-Travaglini C, Samet JH. The relationship between sexual and physical abuse and substance abuse consequences. *J Subst Abuse Treat*. 2002;22(3):121-8. [https://doi.org/10.1016/S0740-5472\(02\)00220-9](https://doi.org/10.1016/S0740-5472(02)00220-9) PMID:12039614
35. Stubbs A, Szoek C. The effect of intimate partner violence on the physical health and health-related behaviors of women: A systematic review of the literature. *Trauma Violence Abuse*. 2022;23(4):1157-72. <https://doi.org/10.1177/1524838020985541> PMID:33541243
36. Puddephatt J-A, Irizar P, Jones A, Gage SH, Goodwin L. Associations of common mental disorder with alcohol use in the adult general population: A systematic review and meta-analysis. *Addiction*. 2022;117(6):1543-72. <https://doi.org/10.1111/add.15735> PMID:34729837 PMCID:PMC9300028
37. Sediri S, Zgueb Y, Ouanes S, et al. Women's mental health: Acute impact of COVID-19 pandemic on domestic violence. *Arch Womens Ment Health*. 2020;23(6):749-56. <https://doi.org/10.1007/s00737-020-01082-4> PMID:33068161 PMCID:PMC7568008
38. Paz-Fonseca A, Mocada-Landa R, Sosa-Mendoza C, Romero AM, Murcia H, Reyes-Ticas A. Mental disorders prevalence at Villanueva Community, Metropolitan Region. *Rev Med Post UNAH*. 1999;4:74-85.
39. Husain N, Chaudhry N, Rhouma A, Sumra A, Tomenson B, Waheed W. Validation of the self-reporting questionnaire (SRQ 20) in British Pakistani and White European population in the United Kingdom. *J Affect Disord*. 2016;189:392-6. <https://doi.org/10.1016/j.jad.2015.08.068> PMID:26499820
40. Chen S, Zhao G, Li L, Wang Y, Chiu H, Caine E. Psychometric properties of the Chinese version of the self-reporting questionnaire 20 (SRQ-20) in community settings. *Int J Soc Psychiatry*. 2009;55(6):538-47. <https://doi.org/10.1177/0020764008095116> PMID:19592444
41. Otten D, Tibubos AN, Schomerus G, et al. Similarities and differences of mental health in women and men: A systematic review of findings in three large German cohorts. *Front Public Health*. 2021;9:553071. <https://doi.org/10.3389/fpubh.2021.553071> PMID:33614574 PMCID:PMC7892592
42. Quispe-Sancho A, Chambi-Macedo KL, Laurel-Vargas V, et al. Depression, anxiety, and stress in health professionals working during the COVID-19 pandemic in Peru: An analytical cross-sectional study. *Electron J Gen Med*. 2021;18(6):em319. <https://doi.org/10.29333/ejgm/11210>