

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

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Abstract

Objective

To determine whether anxiety and moderate or major depression were associated with high alcohol consumption in Honduran women. **Methodology:** Cross-sectional and analytic study, using the SRQ test as a screening test for anxiety, depression and alcohol consumption, confirmed with the Hamilton test for anxiety and depression. The crossing of these variables was carried out to obtain descriptive, bivariate and multivariate results.

Results

Moderate or greater anxiety was more frequent among those with high alcohol consumption (PRa: 1.49; CI95%: 1.09–2.04; p-value = 0.013), was also frequent among those reporting violence at home (PRa: 1.63; CI95%: 1.36–1.94; p < 0.001) and some history of mental pathology at home (PRa: 1.64; CI95%: 1.44–1.87; Value p < 0.001). Moderate or major depression was more frequent among those reporting violence at home (PRa: 1.54; CI95%: 1.30–1.83; p < 0.001) and having some history of mental pathology at home (PRa: 1.38; CI95%: 1.18–1.63; Value p < 0.001).

Conclusion

A strong association was found between anxiety and high alcohol consumption in this population of women from Honduras, Central America. Intensify screening programs for alcohol consumption in the female population and provide psychological support, as well as conduct future research on a larger scale.

Introduction

Approximately half of the world's population is made up of women, which means that their perspectives, experiences and contributions are essential to understanding and addressing the challenges facing society (1). Not only do they play a critical role in caring for children, the elderly and other vulnerable members of society as their work as a caregiver is 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).

Women's drinking behavior is similar to men's, has steadily increased over the past 30 years (4). Among the population aged 15–49, alcohol consumption was the leading risk factor globally in 2016, with 3.8% of female deaths and 12.2% of male deaths attributable to alcohol consumption (5).

The profile of alcohol consumption, the course and prognosis of the problems derived from alcohol abuse is associated with the different roles, the male one that is characterized by dominance, "Don Juanismo", aggressiveness, all of them risk behaviors related to a greater consumption; The female role is characterized by interest in life at home and family care, these activities are associated with lower consumption evidencing the relationship between gender and alcohol consumption (6). Alcohol abuse can cause several pathological and psychological consequences, including alcohol use disorder (AUD), predominant in men, however growing evidence suggests the existence of cognitive and biological consequences of alcohol dependence in women (7).

In Honduras according to the National Demographic and Health Survey (ENDESA/MICS 2019) in a sample of 19279 women aged 15 to 49, 9% reported that they consumed alcohol during the last month (8). In Honduras according to the National Demographic and Health Survey (ENDESA/MICS 2019) in a sample of 19279 women aged 15 to 49, 9% reported that they consumed alcohol during the last month (9). In Honduras according to the National Demographic and Health Survey (ENDESA/MICS 2019) in a sample of 19279 women aged 15 to 49, 9% reported that they consumed alcohol during the last month.

Methods

The study had a cross-sectional descriptive design of association, with a sample for each Doctor in Social Service (MSS) of 70 women, non-random sampling for convenience having a total of 9,962 women participants, among the inclusion criteria: women \geq 18–49 years, having the National Identification Document (DNI) or birth certificate and giving their written informed consent. Among the exclusion criteria: woman < 18 years or > 49 years, having problems of physical and / or mental disability that make it impossible to give information, being drunk and / or having consumed drugs, not speaking Spanish and not giving informed consent, methodology implemented by the Faculty of Medical Sciences of the Autonomous University of Honduras (FCM / UNAH) (10).

An active search for women was carried out, in all the departments of the country, in the areas of influence of the Doctors in Social Work, the instrument was identified with a numerical code: general data, related factors, initial screening with Self Reporting Questionnaire (SRQ) that identifies people with depression, anxiety and alcohol consumption through interview, if the SRQ scale was positive in any of its three sections, the Depression Scales and Hamilton's anxiety.

Test

Self-Reporting Questionnaire (SRQ), a questionnaire created by the WHO in 1980, we use the version adapted in Spanish for the Colombian population (Beusenberg and Orley, 1994) (11). 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 (12). The total scale score ranges from 0 points (no depressive symptoms) to 66 (severe depressive symptoms). In our study we used the scale validated for Spain (13) and the Hamilton Anxiety Scale is a self-administered scale, the total score of the instrument, which is obtained by the

sum of the partial scores of the 14 items, can range from 0 points (absence of anxiety) to 56 (maximum degree of anxiety) we use the version for this study by Lobo and et al. (14).

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 9962, 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% CIs (95% confidence intervals) and p-values were obtained; It is important to mention that the $p < 0.05$ 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.

The project of the study was approved by the Ethics Committee in Biomedical Research (CEIB) of the Faculty of Medical Sciences of the National Autonomous University of Honduras, with **No IRB Registration 00003070**, approved in the session of December 20, 2019, with registration number: 064-2019, with written informed consent. The MSS received an online course of Good Clinical Practices The Global Health Network, (www.tghn.org).

Results

Of the 9962 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. Table 1

Table 1
 Characteristics of Honduran women surveyed, n = 9962.

Variable	Frequency	Percentage %
Age (Years)*		
Mean and standard deviation	30,1	8,6
Median and range interquartile	29	23–36
Marital status		
Common-law marriage	4699	47,2
Single	3304	33,2
Married	1813	18,2
Other	146	1,4
Education		
No	358	3,6
Primary	3351	33,6
High school	4334	43,5
University	1919	19,3
Resides in		
Rural	3454	34,7
Urban	6508	65,3
Violence at home		
No	9509	95,5
Yes	453	4,5
Mental pathology		
No	9240	92,7
Yes, with the family	722	7,3
Alcohol risk		
No	9884	99,2
Yes	78	0,8
Moderate or increased anxiety		
No	1274	75,7
Yes	410	24,3
Moderate or major depression		
No	1069	63,5
Yes	615	36,5

Variable taken as quantitative. Anxiety and depression were measured with the Hamilton test and alcohol risk with the 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 couldn't. Table 2

Table 2
Percentage of responses to the third section of the SRQ test, for at-risk alcohol consumption, n = 9962.

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 couldn't?	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

When crossing the five levels of anxiety and depression according to having the positive criteria for the SRQ scale, it was striking that those who had the three positive criteria for the SRQ scale had high levels of anxiety and severe depression (37.5% for both anxiety and depression) and very severe (12.5% and 37.5% for anxiety and depression, respectively). Table 3

Table 3
Percentage of anxiety and depression levels according to positive criteria for the SRQ scale, n = 9962.

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

Anxiety and depression were measured with the Hamilton test.

Moderate or greater anxiety was more frequent among those with at-risk alcohol use (PRa: 1.49; CI95%: 1.09–2.04; p-value = 0.013), in addition, it was also frequent among those who reported violence at home (PRa: 1.63; CI95%: 1.36–1.94; p < 0.001) and some history of mental pathology at home (PRa: 1.64; CI95%: 1.44–1.87; Value p < 0.001). Table 4

Table 4
Moderate or major anxiety versus risky alcohol consumption and other socio-educational variables in Honduran women, n = 9962.

Variables	Anxiety dwelling or more		Bivariate analysis	Multivariate analysis
	No N (%)	Yes N (%)	RPc (IC95%) P-value	RPc (IC95%) 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 the 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

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

Moderate or major depression was more common among those reporting violence at home (RPa: 1,54; IC95%: 1,30 - 1,83; valor p < 0,001) and according to having some history of mental pathology at home (RPa: 1,38; IC95%: 1,18 - 1,63; valor p < 0,001). Table 5

Table 5
Moderate or major depression versus risky alcohol consumption and other socio-educational variables in Honduran women, n = 9962.

Variables	Moderate Depression or more		Bivariate analysis	Multivariate analysis
	No n (%)	Yes n (%)	RPc (IC95%) P-value	RPc (IC95%) 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 the family	123 (50,4)	121 (49,6)	1,45 (1,21 – 1,73) < 0,001	1,38 (1,18 – 1,63) < 0,001
Mental pathology				
No	1028 (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

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

Discussion

Anxiety, depression and alcohol use are 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 (15).

Zavala and et al, in 5 Honduran communities in a sample of 1629 women over 15 years of age, found that the frequency of domestic violence was 45.2%: verbal 52%, physical 20.5% and sexual 19%, in women under 39 years of age, in a free union, with primary schooling, with children; At the time of the violence, the aggressor was under the influence of alcohol or other drugs, transforming the home into a center of violence, of danger to the woman and children (16).

Domestic violence in Honduras occurs in various forms, involves multiple factors: socioeconomic, cultural, religious, in addition to being a serious social problem with serious consequences where women experience violence in a duplicate way as inhabitants and as exposed women, in the community of Porvenir San Nicolas department of Copan, in 153 women over 16 years with partner, It was found that 79.1% had some type of domestic violence; 39.7% presented economic violence; 29.6% were between 31 and 40 years old; 52.9% were married; 53.7% with incomplete primary education; 38.8% housewife; 59.5% without income; Only 9.1% made a complaint, 83.5% did not consume alcohol (17).

In a study in Ecuador, where 663 adolescents between 13 and 20 years of age participated, it was found that adolescents who are at risk associated with alcohol and tobacco consumption have a significant relationship with symptoms of anxiety and depression, there is a greater tendency for women to present symptoms of depression and anxiety than men (18).

There is a strong association between anxiety versus risky alcohol use, Esmaeelzadeh et al, found significant associations between anxiety and alcohol consumption (19), studies show that anxiety disorders are more common among women, while alcohol use disorder (AUD) is more common among men(20), Astudy of Canadian adults through an online survey in May 2020, found that women were more likely to increase alcohol consumption (41%) and anxiety, during the COVID19 pandemic (21). Alcohol use disorder (AUD) and anxiety disorders (AnxD) are prevalent health problems that frequently coexist (AUD-AnxD) and are combined with each other(22), withevidence that for women experiencing intimate partner violence (IPV), psychological therapies likely reduce depression and may reduce anxiety (23).

In Chile, anxiety disorders are reportedly the most prevalent, followed by major depression and alcohol use disorders. Comorbidity occurs in 27% of those with disorders, but only 7% have three or more diagnoses (24). Ramón-Arbués et al, found in 1074 undergraduate students (71% women and 29% men) aged 18 to 42, that being a woman, frequently consuming alcohol was associated with anxiety (25). 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 (26).

No association was found between depression and risky alcohol use, according to the WHO, depression is a common mental disorder, it is estimated worldwide that 5% of adults suffer from depression (27). 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 (28), in a meta-analysis by Humphreys of 190 studies in 68,830 individuals, conducted to test whether childhood maltreatment was associated with depression diagnosis and symptom scores in adulthood. This is the largest study examining the association between childhood maltreatment and depression (29).

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% (30). 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 (31). 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 (32).

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%, 336/465) of the sample reported physical or sexual abuse in the past; Of these, 75% 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 (33).

Stubbs' meta-analysis published in 2022, demonstrated that the long-term effects of intimate partner violence (IPV) have negative effects on physical health outcomes for women, drug and alcohol abuse and developing chronic diseases and pain. (34). In Honduras according to ENDESA/MICS 2019, 20% of women aged 15–49 have ever been beaten or physically abused by someone after the age of 15, 23% have experienced physical violence by: their husband/partner (very often when drunk 42%) and their mother/stepmother 23%; 20% by their ex-husband/partner; 18% of the father/stepfather; 14% the ex-boyfriend, 13% other family member and, by a sibling in 12% (8).

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, phobia) are twice as likely to report an alcohol use disorder, than people without common mental disorders (35). 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 (36).

A key result is that those who had the three criteria of the SRQ test had higher percentages of depression and anxiety, in severe or very severe degrees, In a study in Honduras that used the Self Reporting Questionnaire (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% (9).

Husain N and et al, validated the SRQ 20 self-report questionnaire in Pakistani British and white European population in the UK in 415 men, 517 women concluded that the 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, the 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 the Hamilton scales (37)(38). Among the risk and protective factors for mental health are identified social factors, lifestyle, physical health, body mass index (BMI), diabetes mellitus, genetic and biological factors, which(39) 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.

Limitations

The collection of the information was carried out in the first quarter of 2020, coinciding with the beginning of the COVID-19 pandemic in the country, since the confinement made it difficult to start the analysis of the information since the investigation began in person and continued online. The filling of the information of the National Identification Document was incomplete in the records and 1,435 were excluded.

Conclusions

Moderate or greater anxiety was more frequent among those who had risky alcohol consumption, in addition, it was also frequent among those who reported violence at home and some history of mental pathology at home.

The three positive criteria for the Self Reporting Questionnaire (SRQ) scale had high levels of anxiety and severe depression for both anxiety and depression and very severe for anxiety and depression, respectively.

Declarations

Author Contributions:

Study design: EET, CASM.

Data collection: HNCR.

Data analysis: CM, JA, LIZ.

Writing: EET, CASM, LIZ, HNCR, JA and CM.

All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement:

The study was conducted under the Declaration of Helsinki. This research's preparation and execution fully complied with the fundamental ethical principles of autonomy, justice, beneficence, and non-maleficence. The study was approved by the CEIB, Registry No IRB 00003070 in the NHI, The Act Number (2019064), approved by the Ethics Committee in Biomedical Research (CEIB) of the National Autonomous University of Honduras (UNAH), meeting of December 20, 2019.

The data presented in this study are available on request from the corresponding author.

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Conflicts of Interest:

The authors declare no conflict of interest.

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