

Social Determinants of Alcohol Use Disorder, Depression, and Anxiety Among Sexual Minority Males During the COVID-19 Pandemic

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ABSTRACT

The COVID-19 pandemic magnified the mental health disparities between sexual minorities and the Filipino population. This study explored the mental health disparities experienced by sexual minorities, which remains unexplored. The study utilized self-administered survey forms to explore the extent and social determinants of an alcohol use disorder, depression, and anxiety among Filipino sexual minority males during the pandemic. A total of 220 participants were recruited in October 2020. They were composed of adult Filipino cisgender males with non-heterosexual orientation from Metro Manila. The results showed significant rates of risk for alcohol use disorder, depression, and anxiety at 36.4%, 9.5%, and 26.4%, respectively. Age ($OR=0.886$, $p=.025$), homosexual orientation ($OR=0.035$, $p=.033$), bisexual orientation ($OR=0.009$, $p=.011$), and living with relatives ($OR=0.162$, $p=.006$) were also significantly associated with depression. Age ($OR=0.866$, $p<.001$) was significantly associated with anxiety. Moreover, compared with the general population during the pandemic, Filipino sexual minorities' risk for alcohol use disorder was higher than depression and anxiety. These disparities were significantly associated with age, sexual orientation, and living arrangements. The findings suggest comorbidities of an alcohol use disorder, depression, and anxiety among Filipino sexual minorities that can be addressed through cost-effective online treatment modalities, information-education campaigns,

integration of mental health into educational curriculums, the institution of policies that bar discrimination against sexual minorities, and initiatives to strengthen family support groups.

Keywords: Alcohol use disorder, anxiety, COVID-19, depression, gays, LGBT, sexual minorities

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INTRODUCTION

The 2019 Coronavirus Disease (COVID-19) pandemic has affected millions of lives across the globe. Countries limit human mobility through travel restrictions, curfews, checkpoints, business closures, school suspensions, and lockdowns of entire cities and economic centers to contain its effects on populations (Tajudin et al., 2021; Tee et al., 2020). In the Philippines, similar measures were implemented (Alibudbud, 2021b; Tee et al., 2020). However, these measures heightened Filipinos' fears, uncertainties, and worries among Filipinos during the pandemic (Alibudbud, 2021b; Tee et al., 2020). Tee et al. (2020) noted that 16.9% of Filipino adults reported moderate-to-severe depressive symptoms while 28.8% had moderate-to-severe anxiety levels because of the pandemic lockdowns. Nonetheless, it should be noted that pandemics can magnify and highlight marginalization and inequalities experienced by particular social groups, including sexual minorities (Ahmed et al., 2020; Alibudbud, 2021b; Drabble & Eliason, 2021; Egcas et al., 2021; Goldbach et al., 2021; Salerno et al., 2020; Yanita & Suhardijanto, 2020). Therefore, researchers must elevate the discussion on mental health disparities among sexual minorities, as Salerno et al. (2020) suggested.

Mental health disparities among sexual minorities have been observed in terms of differences in the rates of depression, anxiety, and alcohol use disorder that are higher than the rest of the population (American Psychiatric Association [APA], 2013, 2018; Drabble & Eliason, 2021;

Goldbach et al., 2021; Pan American Health Organization & World Health Organization, 2013; Tan et al., 2021; Yanita & Suhardijanto, 2020). The effects of these disparities have been explained by the Minority Stress Model, where adverse social experiences by sexual minorities, such as discrimination and stigma based on their social position as a sexual minority, can predispose them to heightened distress and mental health morbidity (Alibudbud, 2021c; Goldbach et al., 2021; Meyer, 1995; Meyer & Frost, 2013; Tan et al., 2021). In the Philippines, international organizations have documented discrimination and stigma based on sexual orientation among sexual minority males across all age groups, different non-heterosexual orientations, income groups, employment status, and in various settings, including the home, school, and health sector (Human Rights Watch, 2017; United Nations Development Program [UNDP] & United States Agency for International Development [USAID], 2014). With the ensuing lockdown in the Philippines, these adverse experiences have persisted during the pandemic (See, 2021).

Given these continued adversities and their implication on mental health, it was recommended that mental health services should be cognizant of the unique needs of sexual minorities (Manalastas et al., 2016; UNDP & USAID, 2014). However, this can be difficult due to the country's scarce and unequal distribution of mental health services. For instance, only about 500 psychiatrists serve 100 million Filipinos, with most psychiatrists working in urban

centers (Lally et al., 2019). Therefore, there is a need to explore the mental health disparities among sexual minorities and their social determinants during the pandemic (Alibudbud, 2021c; Goldbach et al., 2021; Manalastas et al., 2016; See, 2021).

The list of social determinants of mental health among sexual minority males is similar to the general population. Previous studies in western countries have found that mental disorders vary according to age, sexual orientation, educational attainment, employment status, income, and living arrangement (APA, 2013; Goldbach et al., 2021; Sadock et al., 2015; Tan et al., 2021). Young sexual minority males face the problems and pressure of “coming out” (D’Augelli, 2006), while older individuals face both ageism and the stigma attached to their sexual orientation (APA, 2018). Homosexual orientation is associated with a higher propensity for marginalization resulting in higher rates of depression, anxiety, and alcohol use disorder (APA, 2018). Unemployment and low income have also predisposed sexual minority males to mental health problems (APA, 2018; Goldbach et al., 2021). Previous research also suggested that those living in isolation or unaccepted by their families and communities were at higher risk of developing mental disorders (APA, 2018; Russel & Fish, 2016). Few studies have explored the social determinants of mental health among sexual minorities in the Philippines. These studies found that the young and those in a relationship have a higher risk of suicidal ideations and anxiety

than their contemporaries (Alibudbud, 2021c; Manalastas, 2013; Manalastas et al., 2016).

While several studies have been conducted in western countries, there is a dearth of studies on the Philippines and the cultural and contextual variations of mental health (Alibudbud, 2021a; Cockerham, 2017; Estacio et al., 2021; Goldbach et al., 2021; Sadock et al., 2015; Tan et al., 2021). The Philippine cultural context and the COVID-19 pandemic are factors that can account for mental health variation among Filipino sexual minority males. Thus, research must understand and address their mental health disparities during the pandemic.

Significance

In general, the COVID-19 pandemic can magnify the existing marginalization of sexual minority males (Ahmed et al., 2020). This study determined the rates of an alcohol use disorder, depression, and anxiety among Filipino sexual minority males during the pandemic. Likewise, the social determinants of these mental health problems were also explored by assessing their relationship with sociodemographic variables. The findings may guide policies and programs to reduce mental health disparities among Filipino sexual minority males during the pandemic.

MATERIALS AND METHODS

Research Design

This quantitative cross-sectional study was conducted for two weeks in October

2020. It utilized a survey design through online self-administered questionnaires since it allows for the efficient analysis of the relationship between long-term social characteristics and mental health conditions (Bonita et al., 2006). It was conducted online due to Philippine physical distancing and quarantine policies (Tee et al., 2020).

Sampling and Population

This study utilized a purposive snowballing sampling design. First, potential participants were selected from the investigator's social network. Afterward, they were asked to recruit other people who fitted the inclusion criteria until the two-week data collection period elapsed. This purposive snowballing sampling design is instrumental in sampling populations that cannot be readily identified due to stigma or discrimination, which includes sexual minorities in the Philippines (Manalastas et al., 2016; Meyer & Wilson, 2009).

The minimum sample size for this study was computed based on nine predictors, 46.2% prevalence rate of depression among sexual minorities (Alibudbud, 2021c), and ten events per variable (EPV) for predictive models as suggested by Peduzzi et al. (1996) and Ogundimu et al. (2016). Based on these parameters, the minimum adequate sample size needed is 194 participants. Therefore, after the data-gathering period elapsed, 220 eligible participants were recruited.

The study participants were Filipino cisgender males with non-heterosexual orientation, had sexual intercourse with another male, and resided in Metro Manila

during the data gathering period. The non-heterosexual orientation considered in this study were those with sexual or romantic attraction other than women, such as bisexual, homosexual, asexual, and pansexual-oriented men (Alibudbud, 2021c). Male participants with heterosexual orientation, transgender identity, and residence outside Metro Manila were excluded from the study. Thus, this study excluded transmen, transwomen, and those living in other provinces. Additionally, those who did not complete the questionnaire were excluded from the study.

Instrumentation

The study utilized an online self-report questionnaire consisting of three sections. The sections were sequentially completed from the first to the third section. The first section asked for the participants' sociodemographic characteristics, such as age, sexual orientation, educational attainment, income, employment status, and living situation. These variables were adapted from the categorization of the Philippine Statistics Authority (2013). Age was indicated in years. The participant's sexual attraction indicated sexual orientation. The actual amount of the participant's monthly household income was asked for income level. Employment status was assessed in terms of its presence or absence. Living arrangement was indicated by noting whether they were currently living alone, with roommates, relatives, or partners. They can also specify other living situations. The highest educational attainment was reported

by indicating no grade completed to post-baccalaureate.

The second section assessed the risk for alcohol use disorder among the participants. The risk was determined using the Alcohol Use Disorder Identification Test (AUDIT), a 10-items self-report questionnaire developed by the World Health Organization. The AUDIT assesses three domains of alcohol use disorder: hazardous alcohol use, dependence, and harmful alcohol use (Babor et al., 2001). Its translation and validation among Filipinos showed that it conforms to a three-factor component among Filipinos. It indicates that it assesses the original three domains of alcohol use disorder assessed by the original AUDIT (Tuliao et al., 2016). The recommended cut-off point of 8 was used for this study to indicate a significant risk for Alcohol Use Disorder.

The third and last section contained the Hospital Anxiety and Depression Scale – Pilipino (HADS-P). HADS-P was used to screen for significant risk for anxiety and depression. The HADS-P is a 14-item self-report questionnaire composed of seven items for anxiety and depression subscales (Zigmond & Snaith, 1983). Studies have confirmed that it is valid for community settings, including the Philippines (Bjelland et al., 2002; Gauran et al., 2018; Snaith, 2003). Its optimal cut-off for the Philippines is 11 at a sensitivity of 75%, a specificity of 70%, and a positive predictive value of 75% (de Guzman, 2013). This study used this cut-off point to note for clinically significant risk for depression and anxiety.

Before data collection, the HADS-P and AUDIT were validated using the content validation method of Yusof (2019). Six subject matter experts, composed of board-certified psychiatrists, reviewed the relevance and appropriateness of the questionnaire towards Filipino sexual minority males as the target population. Each question was rated through a 4-point Likert scale. The experts unanimously agreed that the questions contained in the questionnaire were highly relevant in assessing depression, anxiety, and alcohol use among the target population. Thus, all questions showed an item-level content validity index score of more than 0.80, indicating universal agreement (Yusof, 2019). Given these, all questions were accepted and retained.

The questionnaire was also pilot-tested on five participants. After answering the questionnaire, the five participants in the pilot test were asked about the appropriateness and clarity of construction of the questions contained in the research instrument. Few revisions to increase the clarity of the questionnaire were done as suggested by the pilot test participants.

Data Gathering Procedure

Initially, potential participants from the investigator's social network were contacted through online messaging applications, such as Facebook and Instagram, since about three-quarters of the Philippine population actively use these platforms daily (Philippine Daily Inquirer, 2020). They were sent online messages regarding

the study objectives and the need for participants. After the potential participants accommodated the online invitation, the study's purpose, benefit, risk, and need for participants were explained. It was highlighted that they could refuse or stop the survey anytime. They were also asked to invite potential participants who may be eligible for this study. It was highlighted that potential participants must be cisgender males with non-heterosexual orientation, who had sexual intercourse with another male, and from Metro Manila. In addition, the investigator's contact details were given should the participants have questions regarding the study and inclusion criteria employed by the investigator. Afterward, a link to the research questionnaire was sequentially filled, from the participant's understanding of the informed consent to the last section of the research questionnaire. After the two-week data gathering period in October 2020 elapsed, the data gathered from the online research instrument was encoded in Microsoft® Excel for Mac version. Once all data were encoded, the online data was deleted.

Data Analysis

Initially, descriptive analysis was done where categorical data were summarized using frequencies and percentages, while continuous data were summarized using means and standard deviations. Afterward, three Logistic Regression models were done to determine the social determinants of significant risks for alcohol use disorder, depression, and anxiety. The predictors of

the regression models included age, sexual orientation, educational attainment, income, employment status, and living situation. The models' dependent variables were binary variables that indicate significant risks for alcohol use disorder, depression, and anxiety using the cut-off score of the AUDIT and each subscale of the HADS-P. Initially, the significance of the models was determined using Chi-Square. Afterward, the individual predictors of each model were analyzed by noting the odds ratio and confidence interval to determine the effect sizes of the predictors of an alcohol use disorder, depression, and anxiety. A p-value of $<.05$ was used as a cut-off for significant associations. All data were analyzed using the Statistical Package for the Social Sciences (SPSS).

Ethical Consideration

This study was based on the post hoc analysis of a duly approved study from the De La Salle University, Manila. It was conducted under the Philippines' Data Privacy Act and National Ethical Guidelines for Health and Health-Related Research. Informed consent was secured before the administration of questionnaires. Participants were also allowed to contact and ask the investigator before answering the questionnaire. Afterward, they indicate their consent in an online form. Numerical codes were also used in place of identifying data to protect the privacy and confidentiality of the participants. Likewise, during data gathering, the participants were given a list of mental health service providers to address their needs or interest in mental health.

RESULTS

Sociodemographic Characteristics of the Participants

As shown in Table 1, the average age of the participants was 30.85, with a standard deviation of 6.08, while the average monthly income of the participants was 93,585.57 (SD=138,533.86). This average monthly income falls on the upper-middle-income class in the Philippines. Majority of the

participants were college graduate (n=119, 54%), employed (n=193, 87.7%), had homosexual orientation (n=173, 78.6%), and lives with relatives (n=116, 52.7%). Notably, about a third of the participants had post-baccalaureate degrees (n=71, 32.3%), while a fifth of the participants had bisexual orientation (n=43, 19.5%) and lived alone (n=46, 20.9%).

Table 1

Sociodemographic characteristics of the participants (n=220)

	Mean/Frequencies	SD/Percentage
Age	30.85	6.08
Sexual Orientation		
Homosexual	173	78.6
Bisexual	43	19.5
Asexual	4	1.8
Income	93585.57	138533.86
Educational Attainment		
No grade completed	1	0.5
Postsecondary graduate	6	2.7
College undergraduate	23	10.5
College graduate	119	54.1
Post-baccalaureate	71	32.3
Employment Status		
Employed	193	87.7
Living Arrangement		
Lives alone	46	20.9
Lives with roommates	28	12.7
Lives with relatives	116	52.7
Lives with partner	30	13.6

Prevalence of Alcohol Use Disorder, Anxiety, and Depression Among the Participants

The participants' risks for alcohol use disorder, anxiety, and depression were measured using the AUDIT and HADS-P subscales. Table 2 showed that one out of

three (n=80, 36.4%) participants were at risk for alcohol use disorder. In contrast, almost one out of ten (n=21, 9.5%) participants was at risk for depressive disorders, while one out of four (n=58, 26.4%) participants was at risk for anxiety disorders.

Table 2

Prevalence of participants at risk for alcohol use disorder, anxiety, and depression (n=220)

	Frequencies	Percentage (%)
At risk for Alcohol Use Disorder	147	66.8
At risk for Depression	21	9.5
At risk for Anxiety	58	26.4

Model Summary of the Regression Model Used for Alcohol Use Disorder, Anxiety, and Depression

The logistic regression models used for exploring the social determinants of an alcohol use disorder, depression, and anxiety are shown in Table 3. The first model showed that the variables for predicting the risk for alcohol use disorder had no collective significance, X^2 (n=9, 220)=15.593, p=.076. The second model variable had collective significance for predicting depression, X^2 (n=9, 220)=18.744, p=.027.

Based on this model's estimated R Square of .082 to .175, the total variance accounted for by the independent variables of this model on depression is 8.2% to 17.5%. The third model's variables were statistically significant in predicting the risk for anxiety, X^2 (n=9, 220)=20.388, p=.016. The estimated R Square of this model ranged from .089 to .129. Thus, 8.9% to 12.9% of the anxiety variance among the participants could be attributed to the model's independent variables.

Table 3

Model summary of the regression model used for alcohol use disorder, anxiety, and depression

Model	Logistic Regression Models	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Chi-square	df	Sig.
1	Alcohol Use Disorder	272.819	0.068	0.094	15.593	9	0.076
2	Depression	119.847	0.082	0.175	18.744	9	0.027*
3	Anxiety	233.415	0.089	0.129	20.388	9	0.016*

Note. * Significant at p-value of <.05

Social Determinants of Alcohol Use Disorder

The individual variables of the regression model for significant risk for alcohol use disorder were examined. Table 4 showed

that the sociodemographic variables had no statistically significant relationship with alcohol use disorder. Thus, this study did not identify any social determinant for alcohol use disorder among the participants.

Table 4

Logistic regression of alcohol use disorder and sociodemographic characteristics

	Odds ratio	Lower 95% CI	Upper 95% CI	P-value
Age	0.97	0.919	1.024	.268
Sexual Orientation				
Homosexual	0.000	0.000		.999
Bisexual	0.000	0.000		.999
Educational Attainment	0.768	0.553	1.068	.117
Income	1.000	1.000	1.000	.415
Employment Status				
Employed	0.836	0.35	2.000	.688
Living Arrangement				
Lives alone	0.809	0.294	2.227	.682
Lives with roommates	1.295	0.425	3.949	.649
Lives with relatives	1.298	0.544	3.096	.556

Social Determinants of Depression

The individual sociodemographic variables in the model for anxiety were also examined (see Table 5). Among these variables, age ($OR= 0.886$, 95% CI [0.796, 0.985], $p=.025$), homosexual orientation ($OR= 0.035$, 95% CI [0.002, 0.764], $p=.033$), bisexual orientation ($OR= 0.009$, 95% CI [0.000, 0.339], $p=.011$), and living with relatives ($OR= 0.162$, 95% CI [0.044, 0.594], $p=.006$) lowered the odds of depression. Thus, age, sexual orientation, and living arrangement were social determinants that may reduce the odds of having depressive disorders among the participants.

Social Determinants of Anxiety

Lastly, the individual variables of the participant's risk for anxiety listed in Table 6 were also examined. It showed that there was a significant association between age and risk for anxiety disorders ($OR= 0.866$, 95% CI [0.804, 0.932], $p<.001$). Thus, age is a social determinant that may protect the participants against anxiety. The rest of the sociodemographic variables in this model was not statistically significant.

Table 5

Logistic regression of depression and sociodemographic characteristics

	Odds ratio	Lower 95% CI	Upper 95% CI	P-value
Age	0.886	0.796	0.985	.025*
Sexual Orientation				
Homosexual	0.035	0.002	0.764	.033*
Bisexual	0.009	0.000	0.339	.011*
Educational Attainment	0.967	0.639	1.464	.875
Income	1.000	1.000	1.000	.156
Employment Status				
Employed	1.138	0.231	5.599	.874
Living Arrangement				
Lives alone	0.406	0.105	1.569	.191
Lives with roommates	0.338	0.068	1.675	.184
Lives with relatives	0.162	0.044	0.594	.006*

Note. *Significant at p-value of <.05

Table 6

Logistic regression of anxiety and sociodemographic characteristics

	Odds ratio	Lower 95% CI	Upper 95% CI	P-value
Age	0.866	0.804	0.932	<.001*
Sexual Orientation				
Homosexual	0.172	0.009	3.454	.250
Bisexual	0.211	0.010	4.315	.312
Educational Attainment	1.195	0.797	1.792	.388
Income	1.000	1.000	1.000	.537
Employment Status				
Employed	1.465	0.515	4.169	.474
Living Arrangement				
Lives alone	0.826	0.267	2.558	.740
Lives with roommates	1.053	0.308	3.605	.934
Lives with relatives	0.877	0.334	2.306	.790

Note. *Significant at p-value of <.05

DISCUSSION

Sexual minorities have higher rates of an alcohol use disorder, depression, and anxiety due to minority stress stemming from marginalization and discrimination based on their sexual minority background. Because of the COVID-19 pandemic, the rates of mental disorders can be heightened through their increased marginalization (Ahmed et al., 2020; Drabble & Eliason, 2021; Goldbach et al., 2021; Salerno et al., 2020; See, 2021). Thus, this study explored depression, anxiety, and alcohol use disorders among sexual minority males during the COVID-19 pandemic in “One of the World’s longest lockdowns” in the Philippines (Ahmed et al., 2020; Drabble & Eliason, 2021; Goldbach et al., 2021; Meyer & Frost 2013; Pan American Health Organization & World Health Organization, 2013; Salerno et al., 2020; See, 2021).

Alcohol Use Disorder, Depression, and Anxiety Among Filipino Sexual Minority Males

The findings revealed that one out of three (36.4%) Filipino sexual minority males in this study were at risk for alcohol use disorder. This rate is about two to three times higher than the 10% to 16% rate of risk for alcohol use disorder noted in other countries (Rehm & Patra, 2010). It was also six times higher than the 5.6% rate of harmful alcohol use in the general Filipino population (World Health Organization, 2016). Like other countries, this finding suggests that Filipino sexual minority males may have higher alcohol use problems than

the general population (APA, 2018; Pan American Health Organization & World Health Organization, 2013; UNDP & USAID, 2014).

The high alcohol use disorder among sexual minority males during the COVID-19 pandemic can be partially explained by the calming effects of alcohol that may reduce the high distress brought upon by the pandemic and lockdown measures. Notably, alcohol use can induce relaxation by affecting brain function and receptors (Sadock et al., 2015; Tee et al., 2020). Thus, it can be inadvertently used to self-medicate pandemic-related stress, depression, and anxiety. This distress reduction effect of alcohol is further reflected by the low rates of depression and anxiety among the sexual minority males in this study.

Alcohol can mask potentially higher rates of depression and anxiety related to these findings. The significant depression and anxiety rates among Filipino sexual minority males were 9.5% and 26.4%. These rates were lower than the Filipino general population’s 16.9% and 28.8% prevalence rates (Tee et al., 2020). These values suggest that the high rates of alcohol use may lower the rates of depression and anxiety among sexual minority males.

Social Determinants of Alcohol Use Disorder Among Filipino Sexual Minority Males

The social determinants of an alcohol use disorder, depression, and anxiety were explored by examining their relationship with sociodemographic variables. It was

found that age, educational level, sexual orientation, living arrangement, and employment status had no association with the risk for alcohol use disorder among the participants. It contradicted the previously reported relationship between alcohol use disorder and sociodemographic characteristics (APA, 2013; Sadock et al., 2015). This lack of relationship can be partly explained by the Philippines' unique cultural and contextual features, such as its kinship system and closely knitted communities (Alibudbud, 2021c; Alibudbud, 2021a; Estacio et al., 2021). Nonetheless, the results suggest a need to explore further the mechanism between these Filipino cultural factors and alcohol use disorder (Alibudbud, 2021a, 2021c; Estacio et al., 2021; Manalastas, 2013).

Social Determinants of Depression Among Filipino Sexual Minority Males

In contrast to alcohol use disorder, the findings suggest that higher age, bisexual orientation, homosexual orientation, and living with relatives could be protective factors against clinically significant depression among the sexual minority males in this study. Various mechanisms can explain these protective effects. Older individuals usually have better education and higher political power that may give them higher control over their life events (Cockerham, 2017). This higher locus of control over one's life is known to be protective against depression (Cockerham, 2017; Sadock et al., 2015).

For living arrangements, living with relatives can signify that individuals were accepted by their family regardless of their sexual orientation. Moreover, Filipino culture highly values strong family relationships and kinship support (Alibudbud, 2021a; Estacio et al., 2021). Given these, participants living with their relatives may have greater social support than those living alone. Thus, given that social support has been noted to mitigate clinically significant depression among populations, Filipino sexual minorities who live with their relatives may have less likelihood of developing significant depression (Alibudbud 2021a; APA, 2018; Estacio et al., 2021; Russel & Fish, 2016).

It was also found that homosexual and bisexual orientation have protective effects against depression among the participants. These protective factors against depression can be due to decreased interactions with adversities in their social environment. It should be noted that harassment and discrimination against sexual minorities are known factors contributory to the development of depression. Lockdown measures and work-from-home setups can decrease these social adversities during the pandemic (Human Rights Watch, 2017; Meyer & Frost, 2013, Sadock et al., 2015).

Social Determinants of Anxiety Among Filipino Sexual Minority Males

Like depression, it was also found that older age may protect against significant anxiety. This relationship can be attributed to the

nature of anxiety as a signal and the political clout of older adults. Anxiety is an alerting signal that warns of impending danger for individuals to control their situation better (Sadock et al., 2015). In addition, older individuals, as previously mentioned, have better control over the outcomes of events than younger ones due to their higher political clout and knowledge (Cockerham, 2017; Sadock et al., 2015). Thus, older individuals may better control anxiety-provoking and potentially dangerous situations.

It was also found that anxiety was not related to education, income, employment, or living arrangement. This finding contradicted previous studies that found associations between depression and these sociodemographic characteristics. Previous studies have also attributed this lack of relationship between mental health problems and social factors to the distinct cultural factors in Philippine society (Alibudbud, 2021a; APA, 2013; Estacio et al., 2021; Sadock et al., 2015). Nonetheless, further studies are needed to determine the processes behind this lack of relationships.

Limitations and Future Directions

While this study contributed to the further understanding mental health among Filipino sexual minorities, it has several limitations. First, the study utilized a non-probability sampling design, limiting its generalizability to the sexual minority population since members of the Filipino sexual minority male community may have less likelihood of being included than others (Manalastas

et al., 2016; Meyer & Wilson, 2009). Likewise, it was conducted in a single Philippine region, limiting its applicability to other regions. Future studies can address this limitation by utilizing probability sampling, recruiting more participants, and expanding to other Philippine regions. Second, asexual orientation and living with one's partner were removed from the regression model due to collinearity as referents. Third, other determinants of mental health, such as discrimination and face mask use during the pandemic, were not assessed (Wang et al., 2020). Moreover, the social and behavioral impact of mental health problems, including decreased sexual activities and COVID-19 vaccine hesitation, was not explored (Drabble & Eliason, 2021; Hao et al., 2021; Lehmler et al., 2021). Hence, future studies can include these determinants and consequences of mental health problems as possible variables related to sexual minority mental health. Fourth, this study was conducted online due to the physical distancing measures during the COVID-19 pandemic. Given the lack of internet access by a portion of Philippine society (Cleofas, 2021; Cleofas & Rocha, 2021), future studies can utilize face-to-face surveys to address this digital divide and internet access inequality for a better representation of the Filipino sexual minority population. Lastly, the analysis in this study also assumed that the social determinants preceded mental health conditions. This limitation can be improved by utilizing prospective methods to determine the causal relationship between these variables.

CONCLUSION

In general, Filipino sexual minority males in this study had six times higher rates of significant risk for alcohol use disorder compared to the general population. On the other hand, their rates of significant risk for depression and anxiety were lower than the general Filipino population during the pandemic. This high rate of alcohol use disorder can be attributed to alcohol's effect on decreasing anxiety and depression (Sadock et al., 2015; Tee et al., 2020). Hence, alcohol may mask a potentially higher rate of anxiety and depression among Filipino sexual minority males.

Recommendations

Given the study findings, there is a need to address the possible comorbidity of an alcohol use disorder, anxiety, and depression among sexual minority males during the pandemic. It can be done through screening for alcohol use disorder among those with depression and anxiety problems. Likewise, cost-effective online treatment modalities, such as internet-based Cognitive Behavioral Therapy, can be mustered and utilized to address mental health problems while maintaining physical distancing (Ho et al., 2020; Soh et al., 2020; Zhang & Ho, 2017).

This study also identified the social determinants of clinically significant anxiety and depression among Filipino sexual minority males. These included age, sexual orientation, and living arrangements. The significance of these social determinants can be explained through various mechanisms. First, higher age may protect against mental

health problems since older individuals have better control over their situations than younger ones. This higher locus of control can be enhanced among the younger population through information-education campaigns, online information cards, and integrating mental health and coping concepts into the Philippine educational curricula. Individuals with homosexual and bisexual orientations can have less exposure to discrimination and harassment during the COVID-19 pandemic and lockdown. Thus, policies that uphold their rights and bar sexual orientation-based discrimination can be instituted at the national level and replicated at the city level to mitigate discrimination against them further. Sexual minorities who live with their family have lower odds of depression since they can have strong social support. This strong family support should be strengthened and mustered in the existing mental health programs by involving family members in the recovery and treatment of sexual minority males with mental health concerns. These can be done through supporting family support groups and family and couples' therapy.

Overall, this study identified the risk for alcohol use disorder, depression, and anxiety as well as their social determinants among a group of Filipino sexual minority males during the COVID-19 pandemic. It also discussed and posited several mechanisms behind the effects of these social determinants. Nonetheless, further studies are needed to ascertain the validity of these mechanisms. Likewise, interventions

and programs can be established further to strengthen the protective effects of these social determinants and address alcohol use disorder, depression, and anxiety among Filipino sexual minority males.

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