Depression and Anxiety Among Adults in Hawai'i

A Focus on Gender and Ethnicity

Sungkun Cho*, M.S., Florentina R. Salvail†, M. Sc., Philippe L. Gross*, Ph.D., Annette Crisanti*, Ph.D., Debbie Gundaya*, M.A., Jeffrey M. Smith†, Ph.D.

*Mental Health Services Research, Evaluation, and Training Program, University of Hawai'i †Hawai'i State Department of Health

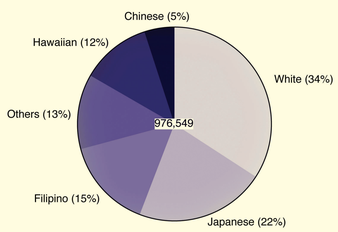
Introduction

The State of Hawai'i is host to a rich blend of cultures and ethnicities (see Figure 1) and because of its diversity, Hawai'i is an ideal place to study the interaction between culture and health. Studies have shown that gender, race, and ethnicity are correlated with health outcomes and that racial disparity persists in medical care treatment and outcomes ("Mental Health: Culture, Race, and Ethnicity," 2001; Smedley et al., 2002).

This study aims to contribute to the growing literature on the relationship between ethnicity and health outcomes by examining how the prevalence of anxiety and depression differs across gender and the five major ethnic groups in Hawai'i.

The impact of anxiety and depression is far reaching, including medical, psychological, and social consequences. Given the extent of their sequelae, studies of their prevalence among general populations are imperative for planning of mental health care services. More specific information, such as whether and how prevalence varies among gender and ethnicities, could help administrators and providers in targeting primary prevention efforts and anti-stigma campaigns. Prior to 2006, it was a challenge to estimate the prevalence of anxiety and depression by gender and ethnicity due to lack of available general population data on mental disorders. In 2006, the Behavioral Risk Factor Surveillance System (BRFSS) in the State of Hawai'i added an anxiety and depression module, thereby making it possible for the first time to estimate prevalence based on a large statewide sample.

Figure 1. Ethnic Breakdown of Adults in Hawai'i



Objectives

This study aims to:

- Estimate the lifetime prevalence of anxiety and depression, and examine possible differences across gender and ethnicity
- Estimate the current prevalence of major depression and other depressive disorders and examine possible differences across ethnicity

Methods

Participants

During calendar year 2006, the Hawai'i BRFSS collected usable data on 5,840 State of Hawai'i residents aged 18 and older through a random household telephone survey.

Measures

The Hawai'i BRFSS 2006 included the Depression and Anxiety Module, which consisted of two parts: (a) Provider Diagnosis of Depressive and Anxiety Disorders Questions, and (b) Patient Health Questionnaire-8 (PHQ-8).

Lifetime prevalence of depression and anxiety: Did the respondents report that a doctor or a healthcare provider EVER told them they had a depressive disorder or an anxiety disorder.

Current prevalence of depression: The severity of Current Depression was determined using the Provisional Depressive Disorder diagnosis (PDD) (Kroenke & Spitzer, 2002). The PDD consists of three categories: (1) **Major depressive disorder** = seven days or more of symptoms of anhedonia or depression and five to eight depressive symptoms from the PHQ-8; (2) **Other depression** = seven days or more of symptoms of anhedonia or depression and two to four depressive symptoms from the PHQ-8; and (3) **No depression** = fewer than two depressive symptoms.

Analyses

- Prevalence estimates of lifetime depression and anxiety and prevalence of current depression were calculated by gender and ethnicity based on the five major ethnicities among residents of Hawai'i: White, Japanese, Filipino, Hawaiian, and Chinese. Total population data for gender and race were based on estimated population for 2006 (based on Claritas estimates).
- Statistical analyses: Pairwise T-test was used to measure differences between gender and ethnicities.

Results

The following findings were based on 5,840 individuals: 2,478 males (42%) and 3,362 females (58%). The percentage of the ethnic population sampled was: White (44%), Japanese (20%), Hawaiian (12%) , Filipino (11%), Others (10%), and Chinese (4%). For ethnic distribution, see Table 1, which also provides background information on education and income.

- Females had significantly higher prevalence rates of lifetime depression and anxiety than males (p<.05)(see Figure 2).
- Whites had significantly higher prevalence rates of lifetime anxiety than did Japanese, and reported having had depression sometime in their lives at higher rates than Hawaiian, Chinese, Filipino, or Japanese (p<.05)(see Figure 3).
- Within each ethnicity, females were overall significantly more likely than males to have had lifetime anxiety and/or depression (p<.001)(see Figure 4):
  - Chinese females > Chinese males (5 times)
  - White females > White males (2 times)
  - Japanese females > Japanese males (1.7 times)
  - Hawaiian females > Hawaiian males (1.6 times)
  - Filipina females > Filipino males (1.4 times)
- Females were significantly more likely to have had lifetime depression than anxiety; but different trends were shown among ethnicities. Whereas White, Hawaiian, and Japanese females were significantly more likely to have had depression than anxiety, Filipina and Chinese females showed a significant opposite trend with a higher lifetime prevalence of anxiety than depression (p<.001)(see Figure 4).
- Hawaiians had the highest current depression prevalence rate, significantly higher than depression prevalence rates for either Chinese or Japanese (p<.05)(see Figure 5).

Table 1. Education and Income by Ethnicity

	Total	Hawaiian	Filipino	Chinese	Japanese	White	Others
Total sample	5,840	694	646	235	1,140	2,542	583
Estimated population	976,549	114,630	144,136	48,301	213,972	332,534	122,976
EDUCATION							
Less than high school	5.60%	8.60%	7.30%	2.00%	4.30%	4.90%	6.30%
High school graduate/GED	28.60%	44.80%	32.90%	24.50%	24.30%	21.20%	37.80%
Some college	29.00%	29.00%	33.50%	18.40%	28.20%	29.70%	27.30%
College graduate	36.90%	17.60%	26.30%	55.10%	43.30%	44.30%	28.60%
HOUSEHOLD INCOME							
<$20,000	9.30%	13.40%	7.30%	5.80%	8.20%	8.30%	13.30%
$20<$50,000	31.70%	40.90%	36.50%	30.20%	24.80%	30.00%	34.90%
$50<$75,000	16.80%	16.00%	18.20%	21.50%	18.20%	16.20%	13.00%
>=$75,000	26.30%	16.70%	15.90%	29.60%	30.30%	32.60%	21.90%
Unknown	16.00%	13.00%	22.10%	13.00%	18.60%	12.90%	16.90%

Figure 2. Lifetime Anxiety & Depression: Prevalence Rate by Gender

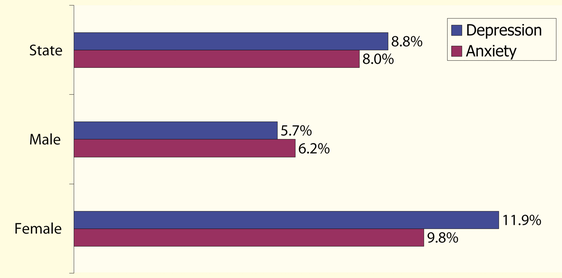


Figure 3. Lifetime Anxiety and Depression Prevalence Rate by Ethnicity

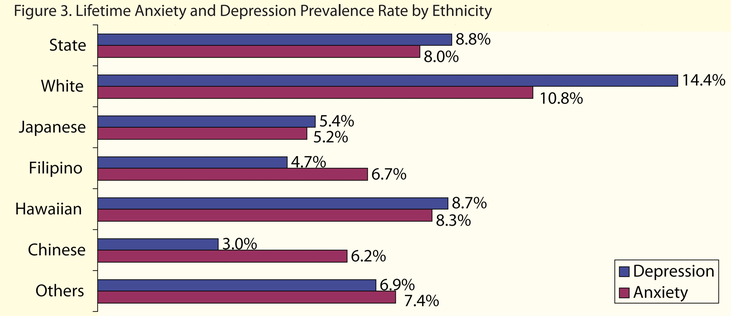


Figure 4. Lifetime Anxiety & Depression Prevalence Rate by Gender and Ethnicity

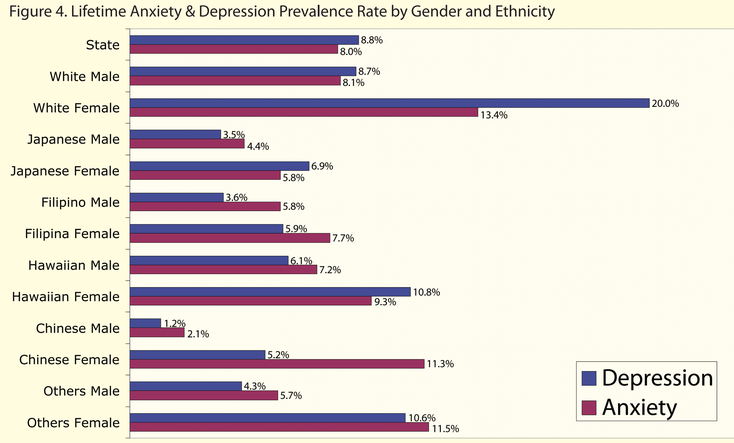
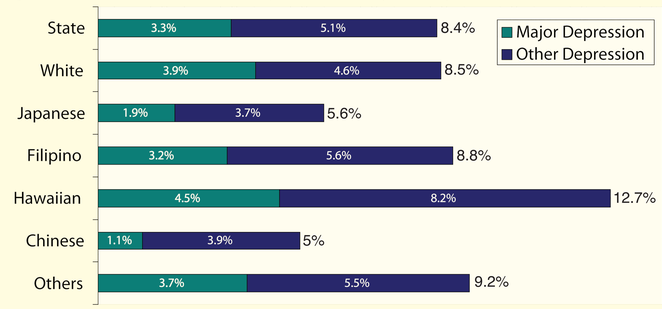


Figure 5. Current Prevalence Rate of Depression (PDD) by Ethnicity



Discussion

The differences in the lifetime prevalence of depression and anxiety across ethnic groups and between gender may be due to the following:

- Health seeking behaviors may vary due to differences in beliefs about causality of mental illness and expression of distress.
- Cultural factors such as incompatible expectations with current systems of care, linguistic barriers, lack of an ethnically matched care provider, and preferred alternative healing practices may contribute to observed disparities.
- Socioeconomic status is also a likely factor (see Table 1). In a different study with this sampled population, our results confirmed the often reported finding that low socioeconomic status is significantly associated with depression and anxiety. Low socioeconomic status may indirectly influence the reported lifetime prevalence rates. Unless individuals interact with the health care system, their mental disorders remain unrecognized. These factors, a lower socioeconomics status and lower interaction with Western health care may explain why Hawaiians have higher prevalence of current depression than prevalence of lifetime depression. Hawaiians with lower socioeconomic status may under-utilize the health care system due to not identifying with traditional Western medical practices as well as a lack of resources (e.g., transportation and health insurance).

Recommendations

- Culturally appropriate screening and assessment for anxiety and depression in primary health care must be a part of the health care system for early detection.
- Systems of health care must be more inclusive in providing culturally appropriate services to vulnerable segments of the population such as Hawaiian who appear to be under served.
- Lower socioeconomic status should be recognized as being associated with a higher prevalence of depression and not serve as a barrier to quality health services.

References

Kroenke K, Spitzer RL. *The PHQ-9: A New Depression Diagnostic and Severity Measure*. Psychiatric Annals, 2002; 32: 509-21.

Mental Health: Culture, Race, and Ethnicity. A Supplement to Mental Health: A Report of the Surgeon General. Department of Health and Human Services, 2001.

Smedley, Brian D., Stith, Adrienne Y., Nelson, Alan, R. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Institute of Medicine, 2002. (Washington DC: National Academy Press).

Acknowledgments

This study was supported by a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA).