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Examining Depressive Symptoms and Use of Counseling in the Past Year Among Filipino and Non-Hispanic White Adolescents in California

Joyce R. Javier, MD, MPH^{*}, Maureen Lahiff, PhD[†], Rizaldy R. Ferrer, PhD[‡], and Lynne C. Huffman, MD[§]

^{*}Division of General Pediatrics, Department of Pediatrics, Childrens Hospital Los Angeles, University of California Keck School Of Medicine, Los Angeles, CA

[†]Division of Biostatistics, School of Public Health, University of California Berkeley, Berkeley, CA

[‡]Division of Pediatric Surgery, Department of Pediatrics, Childrens Hospital Los Angeles, Children Youth & Family Services Consortium at Alliant International University, Los Angeles, CA

[§]Division of General Pediatrics, Department of Pediatrics, Stanford University School of Medicine, Palo Alto, CA

Abstract

Objective—We compared measures of depressive symptoms and use of counseling in the past year for Filipino versus non-Hispanic white adolescents in California.

Methods—This cross-sectional study used data from 4421 adolescents who completed the 2003 and 2005 California Health Interview Survey. Bivariate analyses, linear regression, and logistic regression were performed.

Results—Compared to non-Hispanic white adolescents, Filipino adolescents had higher mean 8-item version of Center for Epidemiologic Studies Depression Scale scores (5.43 vs 3.94) and were more likely to report a clinically significant level of depressive symptoms (defined as 8-item version of Center for Epidemiologic Studies Depression Scale score >7) (29.0 vs 17.9%). Filipino adolescents are just as likely as their non-Hispanic white counterparts to report low use of counseling in the past year (17.6 vs 28.4%). Multivariate analyses indicate that depressive symptoms were positively associated with Filipino ethnicity, female gender, living in a single parent household, lower parental education, and poverty. The effect that ethnicity had on use of counseling in the past year varied by gender, income level, and parental education level. Filipino male adolescents with family incomes >300% federal poverty level and parents with more than a college degree were significantly less likely than their non-Hispanic white counterparts to report use of counseling in the past year (odds ratio, 0.01; confidence interval, 0.0004 – 0.44). Filipino female adolescents with family incomes <300% federal poverty level and parental education less than a college degree were significantly more likely to report use of counseling than their non-Hispanic white counterparts (odds ratio, 3.99; confidence interval, 1.00 –15.89).

Conclusion—Further studies and interventions are needed to effectively screen for and treat depression among Filipino adolescents.

Keywords

Asian American; Filipino; mental health; adolescent

Mental health issues are common and needs are often unmet in the adolescent population. According to the Surgeon General's seminal report on mental health, approximately 5% of American children aged 4 to 17 are struggling with serious emotional and behavioral difficulties.¹ Further, 75% of children in the United States with a mental health need are not able to access needed services.² Although there is a growing literature that speaks to the mental health service needs of minority children, limited information is available about Filipino adolescents, the second largest Asian Pacific Islander (API) subgroup in the United States. This study examines depressive symptoms and the use of psychological or emotional counseling in Filipino adolescents in California. The study is part of a larger study whose over-arching goal is to describe Filipino adolescents' mental health service needs and utilization patterns.

The population of API children ages 0 to 18 in the United States is expected to more than double by 2025.³ Yet, we have only a limited understanding of the health and health care issues that characterize these children. The API population comprises over 25 subgroups that vary in language, culture, and immigration history.³ Unfortunately, this population remains largely underserved and understudied with only 0.2% of health-related federal grants received and 0.01% published studies by the end of 2000.⁴ According to the U.S. Census 2000, there are 11,859,556 Asians in the United States; 2,858,291 of them identified themselves as Filipino. On average, 1 in 5 Asians in the United States is Filipino.³ Most Filipinos live in California or Hawaii; however, Filipino populations in other states have more than doubled in the past decade (e.g., Texas, Florida). California is home to the largest Filipino population with more than 1 million.⁵

Asian Americans have sometimes been called the model minority because of their high educational, occupational, and economic achievement and low rates of juvenile delinquency. The prevalence of mental disorders in this population has been thought to be low. However, among Asians in the U.S., Filipino children and adolescents have gained increasing attention as an especially high-need group.^{5–7} Studies have revealed that Filipino adolescents have higher smoking rates, alcohol usage, and higher numbers of teen births compared with other Asian subgroups.^{6,8} A qualitative study conducted in 2 California cities found that although one's family can offer a positive base of Filipino identity for this group of youth, it also is a source of stress and alienation that has been associated with depression and suicidal thoughts. Interviews in high schools revealed that counselors were “concerned about the mental health of Filipino students as a group” because they are adverse to seeking counseling for fear that their parents will find out.⁹ Previous studies indicate mixed findings regarding the prevalence of depression in Filipino adolescents. In a study examining public high school students in Hawaii, symptoms of depression, anxiety, and substance abuse were not different between Filipino adolescents when compared to their non-Filipino

counterparts.¹⁰ However, another study using national data revealed that Filipino adolescents have significantly higher levels of depressive symptoms than their Chinese and Non-Hispanic white counterparts.¹¹ Although these studies have been published recently, data were collected from over 10 years ago. Current data are now due, particularly from California, the state that is home to the largest Filipino population in the United States.

To our knowledge, no studies have explored mental health care service utilization, such as use of psychological counseling among Filipino adolescents. We are interested in examining Filipinos because they share similar cultural values to Asian Americans in general (e.g., shame and obligation to the family may prevent Filipinos from seeking help for problems such as depression, use of mental health services) but are also unique in that they are predominantly Catholic and have a mixed heritage due to centuries of colonialism by Spain and the United States.^{12,13} In aggregate, Asian Americans have the lowest utilization rates of mental health services among ethnic populations, regardless of gender, age, and geographic location. Moreover, Asian Americans who do seek care tend to delay using services until their problems become severe.¹⁴ For example, Snowden et al recently examined rates and intensity of crisis services use by race/ethnicity for 351,174 children younger than 18 years who received specialty mental health care from California's 57 county public mental health systems between July 1998 and June 2001. Results from this study indicate that along with African-American (odds ratio = 1.11; $p < .01$) and American Indian/Alaska Native children (odds ratio = 1.94; $p < .01$), API children (odds ratio = 1.20; $p < .01$) had a greater probability of using more-intensive hospital-based crisis stabilization services for serious mental health crises than non-Hispanic white children. However, API children were not repeat users of crisis stabilization services, and they did not have greater use compared with non-Hispanic white children of crisis intervention services that target less serious crises. Per Snowden, "such nonrecurring treatment seeking for what are probably serious and possibly unmanageable mental health problems resembles a pattern followed by API adults." These findings suggest that API children may have both difficulties in accessing care and delays in using services when needed.¹⁵

Examining depressive symptoms and use of counseling is also important because suicide is a significant, yet under recognized public health issue for Asian Americans, especially among adolescents and young adults. Suicide is the second leading cause of death among Asian Americans, ages 15 to 34 years.¹⁶ Recent studies on Asian American university students found more elevated levels of mental health symptoms and higher suicide attempt rates and lower mental health treatment seeking compared with non-Hispanic white students.^{17,18} Difficulties with acculturation, stigma, social isolation, health-care disparity, and discrimination coupled with the intense pressure to succeed may be related to higher suicide rates for Asian American youth.¹⁹ Generally, over the past 40 years, studies have indicated that Japanese Americans complete suicide at a proportional rate slightly higher than Chinese Americans, whereas Filipino Americans complete suicide at a significantly lower rate than either of the other two ethnic groups.^{20,21} No studies have examined suicidal ideation or attempted suicide for Filipino American adolescents.

The purpose of this study is to compare measures of depressive symptoms and use of counseling for adolescents who are Filipino and who are non-Hispanic white. It also aims to

describe predictors of depressive symptoms and use of counseling for these two groups. Based on this previous literature citing high levels of adolescent risk behaviors, low levels of self-esteem, and barriers to care because of stigma associated with mental illness in Filipino culture,¹³ we hypothesize that, compared to non-Hispanic white adolescents, Filipino adolescents will be more likely to report depressive symptoms but less likely to report use of counseling when needed.

METHODS

Data Source

This study used data from the California Health Interview Survey (CHIS), a population-based, random-digit dialing, telephone health survey of California civilian households. Data were obtained from the 2003 and 2005 surveys, which conducted interviews between August 2003 and February 2004 and between July 2005 and April 2006, respectively.^{22,23} Interviews were conducted in 5 languages: English, Spanish, Chinese, Vietnamese, and Korean. According to CHIS, these languages were chosen based on research that identified the languages that would cover the largest number of Californians in the CHIS sample that either did not speak English or did not speak English well enough to otherwise participate.^{22,23} Filipinos in the U.S. have lower limited English proficiency rates (21%), compared with other Asian subgroups such as Vietnamese and Koreans (54% and 50%, respectively).³

The CHIS used stratified sampling and randomly selected one adult per household for a telephone interview. Among households with children and adolescents, one child and one adolescent were randomly selected for an interview. The sampled adolescent responded for him or herself but only after a parent or guardian gave permission for the interview. Cell phone users were not included in the 2003 and 2005 CHIS survey. The overall response rates for the surveys were 33.5% in 2003 and 29.5% in 2005. The adolescent response rates were 57.3% in 2003 and 48.5% and 2005.^{24,25}

Data analyses were conducted using Stata 9.0²⁶ with the replicate weights provided by the CHIS to calculate standard errors via the jackknife method.²⁷ This method takes several factors into account: the stratified sampling design, the oversampling of certain groups, and nonresponse.²⁸ In addition to stratification by county or clusters of small counties, CHIS creates weights to adjust for nonresponse. The weights also adjust the estimates to reflect the age, gender, and ethnic distributions of the population of California, a procedure called “raking.” Survey procedures in Stata 9 were used for all estimates, tests, and confidence intervals, with replicate weights and a jackknife procedure. These procedures transform the usual Pearson chi-square statistics into F statistics. All estimates in the text and tables have been weighted to reflect California's state population totals.

Study Design and Sample

This study was a cross-sectional study that was approved by the Childrens Hospital Los Angeles/University of Southern California Keck School of Medicine Panel on Human Subjects in Medical Research. From a total sample of 8039 adolescents, we selected 4421

adolescents who identified themselves as non-Hispanic white or Filipino. Seventeen adolescents who reported mixed Filipino and non-Hispanic white ethnicity were placed in the Filipino category. Three Filipino adolescents and 28 non-Hispanic white adolescents conducted the interview in a language other than English. Because Tagalog speakers were excluded from survey participation, these adolescents spoke Spanish, Mandarin (Chinese), Vietnamese, or Korean.

We examined two dependent variables: depressive symptoms and use of counseling in the past year. Level of depressive symptoms was measured by a modified 8-item version of the Center of Epidemiologic Studies of Depression scale, a scale used widely in population-based survey studies. Examples of the items include “How often in the last week have you felt: lonely, sad, depressed, like you did not want to do the things you usually do, and like a failure?” Two items were positively worded and required reverse coding (i.e., “How often in the last week have you felt happy?”) Each of the 8 items was assigned one value of 0, 1, 2, or 3. The values were assigned as follows: rarely or none of the time (less than 1 day) = 0; some or a little of the time (1–2 days) = 1; occasionally or a more moderate amount of the time (3–4 days) = 2; and more or all of the time (5–7 days) = 3. The values for each of the 8-item measures were summed into a resulting score that ranged between 0 and 24. This score was examined as both a continuous and dichotomous variable. According to Melchor et al, “for the dichotomous variable, a score ≥ 7 indicates a clinically significant level of psychological distress. A score ≥ 7 is not equivalent to the diagnosis of depression and in the general population, about 20% would be expected to score in this range.”²⁹ Of note, Melchor et al explored the psychometrics with adult women. We also examined use of counseling in the past year for adolescents who had a clinically significant level of depressive symptoms. This construct was measured by the following survey item: “During the past 12 months, have you received any psychological or emotional counseling?” The 8-item version of Center for Epidemiologic Studies Depression Scale (CES-D8) questions preceded the use of counseling question.

We examined the following independent variables because they all have been shown to influence presence of depressive symptoms and use of counseling in the past year in previous studies in minority children.^{30–32} The first independent variable is immigrant family status.³³ Our classification of adolescents in immigrant families is based on standard definitions in the field of demography in which children in immigrant families include both the first generation (foreign-born children) and the second generation (children born in the U.S. with at least one foreign-born parent), whereas children in non-immigrant families are third and later generation (children and parents all born in the United States). We did not include the adolescent's immigrant status because the immigrant status of their parents often influences how they access mental health care. In addition, for CHIS 2003 and 2005, less than 10% of the entire adolescent sample was born outside the United States. Thus, if we limited our sample to only Filipino and non-Hispanic white adolescents, our sample sizes would be too small to make comparisons between immigrant and non-immigrant adolescents and to investigate number of years in the United States. Age was used as a continuous variable. We included three measures of socioeconomic position: highest level of education of adult in household, annual household income in terms of federal poverty level, and employment status (defined as work status last week of adult respondent). Because few

adolescents reported parental education levels less than college degree and income <300% federal poverty level, education was collapsed into 2 categories (college degree or more vs less than college degree) and income was collapsed into 2 categories (<300% federal poverty level and <300% federal poverty level). Insurance status of the adolescent was obtained from the adult respondent. Discontinuous insurance was also included because access to care has been shown to be worse for children who were uninsured for part of the year compared with those with full-year, private insurance. Finally, family type (2-parent vs single-parent) was included.

Statistical Analysis

Variable specification was directed by exploratory analyses and included checking for influential values, distributions, and correlations between study measures. Chi-square tests were used to describe sample characteristics (including depressive symptoms and use of counseling among adolescents with a clinically significant level of depressive symptoms) by ethnicity. The Pearson chi-square tests were transformed to approximate F statistics to take the sampling design and weights into account. The survey mean command with a follow-up T-test for two independent samples was used to compare mean CES-D8 scores by ethnicity. Linear regression was used to examine the association between CES-D8 scores and the independent variables. Logistic regression was used to examine the presence of clinically significant depression (defined as a CES-D8 score ≥ 7) and use of psychological or emotional counseling in the past year for these adolescents and the independent variables. All two-way interactions between the independent variables included in the main effects models were tested for significance. For detecting interaction, $p < .1$ was used. Where the interactions were $p < .1$, Stata's lincom procedure was used to calculate follow-up statistics. Linear combinations were used to demonstrate the effects.

RESULTS

Characteristics of Filipino and Non-Hispanic White Adolescents

Table 1 presents the characteristics of Filipino and non-Hispanic white adolescents in California. Results from the 2003 and 2005 California Health Interview Survey indicate that Filipino adolescents are significantly more likely to live in an immigrant family, live below 300% federal poverty level (FPL), and lack health insurance compared with non-Hispanic white adolescents. Filipino adolescents also have favorable characteristics such as higher parental education and higher levels of parental employment compared with non-Hispanic whites.

Unadjusted Relationships Between Race/Ethnicity and Depressive Symptoms, Clinically Significant Depressive Symptoms, and Reported Use of Counseling

Table 2 presents the mean CES-D8 score by ethnicity. Filipino adolescents had higher mean CESD-8 scores compared to non-Hispanic white adolescents (5.43 vs 3.94, $p < .013$). Table 3 presents the percentage of respondents with a clinically significant level of depressive symptoms. Filipino adolescents are more likely than are non-Hispanic white adolescents to report a clinically significant level of depressive symptoms (29.0 vs 17.9%, $p = .0021$).

There is no difference between use of counseling between Filipino adolescents and non-Hispanic white adolescents (17.6 vs 28.4%; $p = .1819$) (Table 4).

Adjusted Relationships Between Predictors and Depressive Symptoms, Clinically Significant Level of Depressive Symptoms, and Reported Use of Counseling

The results of weighted linear regression for depressive symptoms are presented in Table 5. In the regression model generated, Filipino ethnicity, female gender, increasing age, living in a single parent household, lower parental education, and poverty were independently associated with higher CES-D8 scores. The interaction between ethnicity and gender, ethnicity and income, and ethnicity and education level were examined and not found to be significant; thus, these interactions were not included in our final models.

Table 6 presents the results of weighted logistic regression for CES-D8 score 7. In the regression model generated, a clinically significant level of depression was positively associated with Filipino ethnicity, female gender, increasing age, household incomes <300% FPL, and parental education less than a college degree. The interaction between ethnicity and gender, ethnicity and income, and ethnicity and education level were examined and not found to be significant; thus, these interactions were not included in our final models.

Table 7 presents the results of weighted logistic regression for use of counseling in the past year among adolescents with a clinically significant level of depressive symptoms. Counseling in the past year was positively associated with increasing age (odds ratio, 1.26; confidence interval, 1.11–1.44) and living in a single-parent household (odds ratio, 1.86; confidence interval, 1.15–3.00). We found 3 significant two-way interactions between ethnicity and gender ($p = .040$), ethnicity and income ($p = .084$), and ethnicity and parental education level ($p = .084$). Filipino male adolescents with family incomes 300% FPL and parents with more than a college degree were significantly less likely than non-Hispanic white male adolescents with family incomes 300% FPL and parents with more than a college degree to report use of counseling in the past year (odds ratio, 0.01; confidence interval, 0.0004–0.44). Filipino female adolescents with family incomes <300% FPL and parental education less than a college degree were significantly more likely to report use of counseling than their non-Hispanic white counterparts (odds ratio, 3.99; confidence interval, 1.00–15.89). Although we have not demonstrated a difference between Filipino and non-Hispanic white adolescents among the remaining subgroups of gender, income, and education, it is important to note that this may be due to small sample sizes. Lack of health insurance or discontinuous health insurance coverage, parental employment status, and immigrant status were not associated with decreased use of counseling in the past year.

DISCUSSION

This study had several findings of significance. First, our results indicate that Filipino adolescents, compared to non-Hispanic white adolescents, had higher levels of depressive symptoms and were more likely to report a clinically significant level of depressive symptoms. Second, for both non-Hispanic white and Filipino adolescents, a clinically significant level of depressive symptoms was associated with female gender, living in a single parent household, lower parental education, and poverty. Finally, bivariate analyses

revealed that Filipino adolescents with a clinically significant level of depressive symptoms are just as likely as their non-Hispanic white counterparts to report low use of counseling in the past year. Multivariate analyses revealed that the effect that ethnicity had on use of counseling in the past year for adolescents with a clinically significant level of depressive symptoms varied by gender, income level, and parental education level. Among both Filipino and non-Hispanic white adolescents, those living in a single parent household were more likely to report counseling in the past year.

Our first finding that Filipino adolescents are more likely than non-Hispanic white adolescents to report depressive symptoms adds insight to existing studies examining depression in these two populations. In contrast to our study results, Edman et al³⁴ found no difference in depressed mood between Filipino and Euro-American adolescents. This study was different from our study because it only examined youth in Hawaii. Its authors reported that “lack of ethnic differences may be because of Hawaii's unique cultural mix, where there is no single ‘majority group’ and a high rate of cultural interaction.” Similar to our study results, Willgerodt and Thompson found that after controlling for age, gender, and income, compared with non-Hispanic white and Chinese adolescents, Filipinos had the highest mean depression scores. This study examined national data as opposed to California-specific data.¹¹ Interpreting our study findings in the context of the work of Edman and Willgerodt underscores the need for future studies to examine various social and environmental factors, including acculturation and place of residence, when examining depressive symptoms in Filipino youth. It is also important to note that although Filipino adolescents also had both favorable and unfavorable socioeconomic factors (higher parental education and higher parental employment vs lower household incomes and higher uninsurance rates), after controlling for these factors, they still appear to be at increased risk for depressive symptoms compared to non-Hispanic whites. A previous study among non-Hispanic whites demonstrated that not only low income is related to depressive symptoms but also factors such as previous life events and family environments mediated this relationship.³⁵ Although we were unable to examine other types of adversity including discrimination, acculturative stress, and care by family members who themselves are under stress, these factors should be examined in future studies.

Our second finding is that female gender, lower household income, and lower parental education are associated with depressive symptoms among non-Hispanic white and Filipino adolescents in California. These findings are consistent with previous studies concluding that adversity increases children's chances of experiencing mental health problems and a mental health crisis.^{36,37} According to different theories, gender socialization, genetic and biologic factors, and early childhood experiences may be related to the development of greater psychological distress in females.^{38,39} In a study of adolescents in Hawaii, Edman et al also found that Filipino females reported higher levels of depressive symptomatology than males did. Although limited information is available on gender differences among adolescent Filipino Americans, research with Filipino nationals suggests a higher rate of depressive symptoms for adult female Filipinos.⁴⁰

Our third finding reveals the complexity of examining use of counseling in the past year for Filipino and non-Hispanic white adolescents who report a clinically significant level of

depressive symptoms. Bivariate analyses reveal that utilization of counseling is low for both groups (17.6% and 28.4%) and not significantly different. This finding is consistent with national data that report only 25% of children in the United States with a mental health need are able to access needed services.² Another interpretation of this finding is that a 8-item version of Center for Epidemiologic Studies Depression Scale score 7 is sensitive to, but not specific for, being depressed enough to necessitate counseling.

Possible reasons for low use of counseling among Filipino adolescents include social and cultural factors. Fundamental values in Filipino culture include respect for authority figures, pakikisama, and hiya.⁴¹ In general, Filipino adolescents are less willing than white adolescents to openly disagree with their parents, and they place less emphasis on autonomy.⁴² Pakikisama (family unity and closeness) emphasizes smooth interpersonal relationships and reflects a high value on family, harmony, and conflict avoidance.⁴¹ Hiya is shame and is a motivating factor behind behavior. Filipino culture, like other Asian cultures, holds that a child's behavior is a reflection of family upbringing. This cultural perception may explain a delay in seeking services for stigmatized problems, such as mental illness. Gender expectations may explain differences between males and females in the ability to seek counseling. In Filipino culture, it is more acceptable for girls to express their emotions whereas it may not be appropriate for males to admit to feeling fearful or to cry.³⁴

Results from our multivariate analyses underscore the importance of examining male and female adolescents separately within the context of family factors such as household income and parental education. We found that Filipino males living in more advantaged families were less likely to report counseling in the past year than non-Hispanic white males. Filipino females living in more disadvantaged families are more likely to report counseling in the past year compared to non-Hispanic white counterparts. To our knowledge, this is the first study to describe these differences in use of counseling among Filipino adolescents. Another variable associated with increased use of counseling in the past year was living in a single parent household. This is consistent with previous research by Cairney and Wade⁴³ and Cairney et al⁴⁴ found that single mothers were more likely to seek professional help for mental health issues than married mothers. These findings may be due to several factors including the availability of community out-reach programs targeting Asian females living in disadvantaged families and differences among Filipino males and females in regards to help seeking.

To our knowledge, this is also the first study to describe depressive symptoms and use of counseling for Filipino adolescents compared with non-Hispanic white adolescents in California. Our findings of increased depressive symptoms and low use of counseling among Filipino adolescents have important public health implications for this population. The detection of mental disorders, especially depression, remains one of the proven suicide-reduction strategies for all populations and is especially important for Asian Americans⁴⁵ who are less likely to access mental health services than other minority groups.¹⁴

Limitations

Our study has several limitations. First, it is important to note that a clinically significant level of depressive symptoms (8-item version of Center for Epidemiologic Studies

Depression Scale score 7) is not equivalent to the diagnosis of depression. Thus, we cannot report the prevalence of depression for Filipino and non-Hispanic white adolescents. In addition, assessment of depression in Filipinos requires valid and reliable measurement strategies. Some researchers have noted that the measures of depressive symptoms may be ethnocentric toward Western symptomatology and thus, do not properly capture depression among different ethnic groups. However, a study by Edman et al found that the CES-D8 does not differ in patterns of depression symptomatology for Filipino and non-Hispanic white adolescents.³⁴

Next, the method we used for classifying adolescents by parental immigrant status does not take into account the heterogeneity within the immigrant family category. For example, children in immigrant families in which only one parent was born in the United States may be very different from (e.g., more educated than) children in immigrant families in which both parents are immigrants, thus, resulting in a possible underestimate of the risk for immigrant families in California.

There are several limitations related to survey design and sampling of California Health Interview Survey (CHIS). First, CHIS was not offered in Tagalog or any other Filipino dialect. This may lead to selection bias because families in which the parent's preferred language is Tagalog would not have been included in the study. Language barriers have been described as a hidden barrier for Filipino American adults.⁴⁶ That is, although many Filipinos are comfortable speaking in English, they may not be proficient in communicating their health problems in English. This would lead to a possible underestimate of risk for Filipino adolescents because Filipino adults who do not speak English very well are more likely to be recent immigrants and have lower household incomes.

Next, cell phone users were not included in the 2003 and 2005 CHIS because random digit dial sampling historically has not included cell phone numbers. Cell phones may lead to noncoverage bias because many cell phone users live in households that do not also have a landline phone. Traditional random digit dial sampling frames are limited to landline telephone numbers and thus, exclude cell-phone-only households. Starting in 2007, CHIS supplemented the landline random digit dial sample with a sample of adults living in households with only cell phones. Relative to the landline sample, the cell-phone-only sample were younger, less likely to be married or own their home, and more likely to be male, employed, and living in a single-person household. They also had lower rates of risky health behaviors and better health care utilization and health insurance coverage. Given that cell-phone-only households were less likely to be married and our sample was focused on households with adolescents, noncoverage bias is unlikely to significantly affect our findings.⁴⁷

Finally, the CHIS dataset is a cross-sectional survey, which precludes inference of causality from our findings. Nevertheless, given the technical rigor and scale of the CHIS survey, the findings of this study provide important insights in the relationships of depressive symptoms and use of counseling among adolescents in California in 2003 and 2005.

CONCLUSION

This study demonstrates the importance of examining the mental health status and related care among Filipinos, the second largest Asian subgroup in the United States. We found that Filipino adolescents in California represent a group at risk for depressive symptoms. Similar to non-Hispanic whites, Filipino adolescents with a clinically significant level of depressive symptoms report low use of counseling in the past year. Further research exploring barriers to mental health care utilization is needed to develop culturally appropriate outreach and intervention. Similarly, studies that examine unique individual, family, and cultural factors (e.g., gender differences, acculturative stress, parental relationships, socioeconomic condition, and single-parent families) are necessary. Finally, the development of effective screening programs for depression in Filipino adolescents is critical to improving the emotional well being of these youth.

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Table 1

Characteristics of Adolescents by Race/Ethnicity, California Health Interview Survey, 2003, 2005

Variables	Weighted Proportion, %		<i>p</i>
	Filipino, n = 217 (110,000) ^a	Non-Hispanic White, n = 4204 (1,400,000) ^a	
Age (yr)			
12	27 (5.9)	646 (14.1)	.0777
13	37 (18.8)	704 (15.9)	
14	46 (23.1)	738 (18.2)	
15	36 (17.2)	713 (18.0)	
16	36 (21.2)	710 (17.0)	
17	35 (13.8)	692 (16.9)	
Gender			
Male	118 (53.9)	2105 (51.0)	.4479
Female	99 (46.1)	2099 (49.0)	
Family			
Immigrant family	167 (87.6)	670 (17.3)	<.001
Nonimmigrant family	50 (12.4)	3534 (82.7)	
Parental education ^b			
Less than college degree	68 (33.4)	1679 (44.6)	.0207
College degree or higher	139 (66.3)	2390 (55.4)	
Parental employment status ^b			
Employed	174 (86.2)	3166 (76.4)	.0111
Not employed	33 (13.8)	903 (23.6)	
Household income			
<300% FPL	86 (47.6)	1241 (32.9)	.0008
300% FPL	131 (52.4)	2963 (67.1)	
Family structure			
Single-parent	47 (22.8)	1006 (27.9)	.2431
Two-parent	170 (77.2)	3198 (72.1)	
Insurance			
Insured continuously	203 (88.5)	3967 (94.2)	.0109
Uninsured/discontinuous	14 (11.5)	237 (5.8)	

FPL, federal poverty level.

Numbers are represented in percent.

^a Population estimate.^b Sample size for these variables differs because of missing values.

Table 2

Mean CES-D8 Scores By Race/Ethnicity

	Mean (Standard Error)	95% CI	<i>p</i>
Filipino	5.43 (0.4608)	4.52–6.34	.013
Non-Hispanic white	3.94 (0.0851)	3.77–4.10	

CES-D8, 8-item version of Center for Epidemiologic Studies Depression Scale.

Table 3

Percentage of Adolescents Reporting Clinically Significant Level of Depressive Symptoms (CES-D8 Score 7) by Race/Ethnicity

CES-D8 Score	Weighted Proportion (%)		<i>p</i>
	Filipino (n = 217)	Non-Hispanic White (n = 4204)	
Yes	43 (29.0)	738 (17.9)	.0021
No	174 (69.8)	3466 (82.1)	

CES-D8, 8-item version of Center for Epidemiologic Studies Depression Scale. Numbers are represented in percent.

Table 4

Percentage of Adolescents With Clinically Significant Level of Depressive Symptoms Who Reported Use of Counseling in the Past Year by Race/Ethnicity

Counseling in Past Year	Weighted Proportion (%)		<i>p</i> [*]
	Filipino (n = 43)	Non-Hispanic White (n = 738)	
Yes	10 (17.6)	221 (28.4)	.1819
No	33 (82.4)	517 (71.6)	

* *p* is from the approximate F statistic from Stata's survey tab command. Numbers are represented in percent.

Table 5

Multivariate Regression Analyses of Depressive Symptoms Measured by CES-D8

Variables	Beta (Standard Error)	<i>p</i>
Filipino (vs non-Hispanic white)	1.412 (0.436)	.001
Immigrant family (vs nonimmigrant family)	0.061 (0.2074)	.768
Female (vs male)	0.968 (0.1819)	<.001
Age (yr)	0.154 (0.0508)	.003
Single parent household (vs two-parent)	0.588 (0.2195)	.008
Income <300% FPL (vs 300% FPL)	0.607 (0.2086)	.004
Parental education less than college degree (vs college degree or higher)	0.322 (0.220)	.144
Unemployed parent (vs employed)	0.187 (0.251)	.457
Uninsured or discontinuous insurance (vs insured)	0.892 (0.474)	.062

CES-D8, 8-item version of Center for Epidemiologic Studies Depression Scale; FPL, federal poverty level.

Table 6

Multivariate Logistic Regression Analysis of Predictors of a Clinically Significant Level of Depressive Symptoms (CES-D8 Score >7)

Variables	Adjusted OR (95% CI)	<i>p</i>
Filipino (vs non-Hispanic white)	1.64 (1.04–2.58)	.033
Immigrant family (vs nonimmigrant family)	1.22 (0.94–1.59)	.140
Female (vs male)	1.63 (1.27–2.08)	<.001
Age (yr)	1.10 (1.02–1.17)	.011
Single parent household (vs two-parent)	1.22 (0.94–1.58)	.141
Income <300% FPL (vs ≥300% FPL)	1.45 (1.13–1.85)	.003
Parental education less than college degree (vs college degree or higher)	1.43 (1.10–1.86)	.008
Unemployed parent (vs employed)	0.96 (0.70–1.31)	.809
Uninsured or discontinuous insurance (vs insured)	1.29 (0.85–1.95)	.224

CES-D8, 8-item version of Center for Epidemiologic Studies Depression Scale; FPL, federal poverty level.

Table 7

Multivariate Logistic Regression Analysis of Predictors of Use of Counseling for Adolescents With a Clinically Significant Level of Depressive Symptoms (CES-D8 Score ≥ 7) and Their Interactions

Variables	Adjusted OR (95% CI)	<i>p</i>
Immigrant family (vs nonimmigrant family)	0.80 (0.42–1.51)	.485
Age (yr)	1.26 (1.11–1.44)	.001
Single parent household (vs two-parent)	1.86 (1.15–3.00)	.012
Unemployed parent (vs employed)	1.11 (0.60–2.04)	.741
Uninsured or discontinuous insurance (vs insured)	0.56 (0.21–1.53)	.257
Male, income $\geq 300\%$ FPL, parental education more than college degree Filipino (vs non-Hispanic white)	0.01 (0.0004–0.44)	.016
Male, income $\geq 300\%$ FPL, parental education less than college degree Filipino (vs non-Hispanic white)	0.08 (0.01–1.09)	.058
Male, income $<300\%$ FPL, parental education more than college degree Filipino (vs non-Hispanic white)	0.09 (0.01–1.04)	.053
Male, income $<300\%$ FPL, parental education less than college degree Filipino (vs non-Hispanic white)	0.49 (0.08–3.09)	.443
Female, income $\geq 300\%$ FPL, parental education more than college degree Filipino (vs non-Hispanic white)	0.12 (0.01–1.63)	.110
Female, income $\geq 300\%$ FPL, parental education less than college degree Filipino (vs non-Hispanic white)	0.63 (0.09–4.30)	.638
Female, income $<300\%$ FPL, parental education more than college degree Filipino (vs non-Hispanic white)	0.74 (0.13–4.12)	.728
Female, income $<300\%$ FPL, parental education less than college degree Filipino (vs non-Hispanic white)	3.99 (1.00–15.89)	.049

CES-D8, 8 item version for Center for Epidemiologic Studies Depression Scale; FPL, federal poverty level.