



Mental Health Service Use and Perceived Unmet Needs for Mental Health Care in Asian Americans

Yuri Jang¹ · Hyunwoo Yoon² · Nan Sook Park³ · Min-Kyoung Rhee¹ · David A. Chiriboga⁴

Received: 18 May 2017 / Accepted: 19 October 2018 / Published online: 24 October 2018
© Springer Science+Business Media, LLC, part of Springer Nature 2018

Abstract

Using data from the Asian American Quality of Life (AAQoL, $n = 2609$) survey, logistic regression models of mental health service use and perceived unmet needs were estimated with background variables, ethnicity, and mental health status. More than 44% of the participants were categorized as having mental distress (Kessler 6 [K6] ≥ 6) and 6.1% as having serious mental illness (SMI, K6 ≥ 13). About 23% had used services (mental health specialist, general doctor, and/or religious leader) for their emotional concerns during the past year, and about 7% reported that there was a time that they needed mental health care but could not get it. In the multivariate analyses, the presence of mental distress and SMI increased the odds of using any service and having perceived unmet needs. Those who had used services exhibited higher odds of reporting unmet needs, calling concerns about the quality of services and user satisfaction.

Keywords Mental health service use · Perceived unmet needs · Asian Americans

According to a recent report by the Center for Behavioral Health Statistics and Quality (2016), only 43% of U.S. adults with any mental health problem and 65% of those with serious mental illness (SMI) received mental health services. Despite the improvement in mental health care systems and the proven effectiveness of treatments, sizable numbers of people still remain untreated. This underutilization of services is of particular concern in racial/ethnic minorities (Jimenez et al. 2013; Wang et al. 2005), and closing racial/ethnic disparities in mental health care has become a national priority [U.S. Department of Health and Human Services (DHHS) 2016].

The present study focused on Asian Americans, the fastest growing minority group and the largest group of new immigrants in the U.S. (Pew Research Center 2013) whose needs for mental health care are not much known (Lee et al. 2015). Studies using national datasets [e.g. National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), National Surveys on Drug Use and Health (NSDUH), and National Latino and Asian American Study (NLAAS)] have consistently reported significantly lower prevalence of mental health problems and mental health service use for Asian Americans compared to other racial groups [Substance Abuse and Mental Health Services Administration (SAMHSA) 2014]. For example, the prevalence of any mental illness in Asian Americans is lower than that of Whites (12.3% vs. 19.3%) (SAMHSA 2014). Also, the rate of mental health service use in Asian Americans with mental health concerns ranges between 25% and 31.7%, substantially lower than the 42.8–59.8% observed in their non-Hispanic White counterparts (Harris et al. 2005; Lee et al. 2011).

However, given that all interviews in the NESARC and NSDUH were conducted in English, and the NLAAS offered only a limited Asian language option (Mandarin, Cantonese, Vietnamese, and Tagalog), it is likely that Asian Americans with limited English proficiency are underrepresented in such data and consequently the reported rate of mental

✉ Yuri Jang
yurij@usc.edu

¹ Edward R. Roybal Institute on Aging, Suzanne Dworak-Peck School of Social Work, University of Southern California, 1150 S. Olive Street, Suite 1400, Los Angeles, CA 90015, USA

² School of Social Work, Texas State University, San Marcos, USA

³ School of Social Work, University of South Florida, Tampa, USA

⁴ Department of Child and Family Studies, University of South Florida, Tampa, USA

distress and mental health service use is biased. In fact, studies based on small community-based samples of Asian Americans consistently document their heightened vulnerability to mental health problems and underutilization of mental health services (e.g., Dong et al. 2012; Jang et al. 2007).

Using a sample of Asian Americans that reflects their cultural, ethnic and linguistic diversities, the present study aimed to explore the status and predictors of two interrelated but distinct service outcomes: mental health service use and perceived unmet needs for mental health care. In doing so, we followed the relatively conventional approach of asking participants whether they had talked about their mental or emotional concerns with professionals such as mental health specialists, general doctors, and religious leaders. It is worthy to note that, regardless of their reported use of services, all individuals have subjective perceptions of their own mental health status and service needs. The subjective appraisal that one's mental health care need is not being met or 'perceived unmet needs for mental health care' could stem from the disconnection between mental health needs and services, as well as ineffectiveness of or dissatisfaction with the services sought out.

Based on the aforementioned review, the aims of the present study were: (1) to explore the status of mental health, mental health service use, and perceived unmet needs for mental health care in Asian Americans and (2) to identify factors that determine the use of mental health services and perceived unmet needs for mental health care.

Methods

Data

Data were driven from the Asian American Quality of Life (AAQoL) survey (N = 2614). The survey is part of the City of Austin's AAQoL initiative to obtain information to improve response to the rapid growth of the Asian American population (City of Austin 2017). Self-identified Asian Americans aged 18 and older living in the Austin area were eligible to participate.

The 10-page questionnaire was originally developed in English and then translated into six Asian languages (Chinese, Vietnamese, Korean, Hindi, Gujarati, and Tagalog). Surveys were conducted using a paper and pencil questionnaire in the participants' preferred language. Although the survey was designed to be self-administered, trained bilingual research assistants were available at each survey site for recruitment and assistance with survey administration. A total of 76 survey sessions took place at various sites across the City of Austin (e.g., churches, temples, grocery markets, small group meetings, and cultural events) from August to

December, 2015. The project was publicized through media and ethnic community sources, and referrals for individuals, groups, and organizations were actively sought. It took about 20 min to complete the 10-page questionnaire, and respondents were each paid US \$10 for their participation. The project was approved by a University Institutional Review Board. A total of 2614 individuals participated. After removing cases with more than 10% missing information, the final sample size was 2609. It is noteworthy that almost half of the participants (48.5%) completed the questionnaires in languages other than English.

Measures

Outcome Variable

For mental health service use, participants were asked to indicate if they had used each of the professionals in the list during the past 12 months about their emotional, mental, and personal problems. The list included (1) a psychiatrist, (2) a general practitioner or other medical doctor, (3) a psychologist, professional counselor, marriage therapist, or social worker, and (4) a minister, priest, or other spiritual advisor. Combining the first and the third, the categories used in the present study are (1) mental health specialist, (2) general doctor, and (3) religious leader. Given the literature demonstrating Asian Americans' general reluctance to use specialty mental health care and reliance on general practitioners and religious or spiritual advisors [National Alliance on Mental Illness (NAMI) 2011; Yamada et al. 2012], the category was intended to capture a broad source of mental healthcare in the target population. A binary variable was computed to indicate the use of any service (1) or no use (0).

Adapted from the existing national surveys (e.g., NESARC and NSDUH), perceived unmet needs for mental health care were assessed with a single item asking participants whether there was ever a time in the past 12 months when they needed mental health care but could not get it. Response was coded as "yes" (1) or "no" (0). Individuals who responded "yes" were considered as having perceived unmet needs for mental health care regardless of their use of mental health services (Harris et al. 2005).

Mental Health Status

The Kessler Psychological Distress Scale 6 (K6; Kessler et al. 2002, 2003) was used to index mental health status. The scale was developed as a screening tool for non-specific mental distress and serious mental illness (SMI) and has been widely used in mental health research and practice. The scale measures the frequency of experiencing six different manifestations of psychological distress over the past 30 days: (1) so depressed that nothing could cheer you up,

(2) nervous, (3) hopeless, (4) restless or fidgety, (5) worthless, and (6) everything was an effort. Each item is rated on the 5-point scale ranging from 0 (none of the time) to 4 (all of the time). Responses were summed to create a composite score, ranging from 0 to 24. A score of 6 or greater is indicative of mental distress, and 13 or greater suggests SMI (Kessler et al. 2003). Due to its brevity, ease of administration, and ability to detect the possibility of diagnosable cases of SMI, the K6 has been widely used in national and international population-based studies. It has been translated into many Asian languages, and its psychometric properties have been validated in various samples of Asians and Asian Americans (e.g., Furukawa et al. 2008; Kang et al. 2015). Cronbach's alpha for the present sample was .88.

Ethnicity

Ethnic origin was coded as Chinese (0), Asian Indian (1), Korean (2), Vietnamese (3), Filipino (4), and Other Asian (5). In the comparative and multivariate analyses, Chinese served as a reference group because they are the largest and most studied Asian subgroup.

Background Variable

Covariates included age (0 = 18–39, 1 = 40–59, 2 = 60 and older), gender (0 = male, 1 = female), marital status (0 = married, 1 = not married), education (0 = \geq high school, 1 = < high school), time in the U.S. (0 = \geq 10 years, 1 = < 10 years), English proficiency (0 = proficient, 1 = limited), health insurance (0 = yes, 1 = no), and chronic medical condition (0 = none, 1 = \geq one condition). English proficiency was assessed by asking how well the respondent spoke English on a 4-point response scale ranging from “not at all” to “very well.” Using the U.S. Census criteria (Pandya et al. 2011), those who reported that they spoke English less than “very well” were categorized as a group with limited English proficiency. For chronic medical conditions, a checklist of 10 chronic diseases and conditions (e.g., diabetes, cancer, arthritis, heart disease, and high blood pressure) was used.

Analytic Strategy

Descriptive characteristics of the overall sample and each of the ethnic subgroups were assessed. In addition, the rates of mental health service use and perceived unmet needs for mental health care among those with mental distress ($K6 \geq 6$) and those with SMI ($K6 \geq 13$) in the overall and ethnic subgroups were examined. Ethnic group difference was assessed with χ^2 tests using Chinese as a reference group. For the main analyses, logistic regression models of mental health service use and perceived unmet needs for mental health care were

estimated. In both models, mental distress and SMI were separately entered as an indicator of mental health status. Using a sequential design, mental health service use was entered as an additional predictor in the model of perceived unmet needs. Both ethnicity and background variables (age, gender, marital status, education, time in the U.S., English proficiency, health insurance, and chronic medical condition) were controlled. All analyses were performed using IBM SPSS Statistics 24.

Results

Descriptive Characteristics of the Sample

Sample characteristics are summarized in Table 1. The sample includes 640 Chinese (24.5%), 574 Asian Indians (22%), 471 Koreans (18.1%), 513 Vietnamese (19.7%), 265 Filipinos (10.2%), and 146 individuals from other Asian groups (5.6%). The ethnicities specified by participants in the ‘other’ group included Nepalese, Pakistani, Cambodian, and Japanese. The mean age of the overall sample was 42.8 ($SD = 17.1$) with a range from 18 to 98. About 21% of the participants were aged 60 and older. More than half (55.2%) were female, 33.4% were not married, and about 19% had less than a high school education. The length of stay in the U.S. ranged from 0.25 to 78 years, with an average of 15.6 ($SD = 12.7$). About 42% of the sample had lived in the U.S. for fewer than 10 years. At 62.4%, the rate of limited English proficiency was quite high. About 15% of the sample had no health insurance coverage, and more than a quarter of the sample (28.4%) had at least one chronic disease.

With regard to mental health status, 44.2% of the sample fell into the category of mental distress ($K6 \geq 6$) and 6.1% of SMI ($K6 \geq 13$). About 23% of the sample had used at least one of the three types of mental health services. At 4.5%, the usage rate of mental health specialist was particularly low. About 7% of the sample reported that there was a time that they needed mental health care but could not get it in the past 12 months.

Table 1 also presents ethnic group differences. Compared to Chinese, Vietnamese had a notably higher rate of mental distress (54.6% vs. 38.9%) and SMI (9.2% vs. 4.8%). Asian Indians (27.1%) and Filipinos (39.8%) had a higher rate of mental health service use than Chinese (18.5%). The proportion of the Chinese sample with perceived unmet needs (10.6%) was substantially higher than those of Asian Indians (3.2%), Koreans (5.8%), and Vietnamese (6.5%).

Service Use and Perceived Unmet Needs of the Individuals with Mental Distress and SMI

Table 2 summarizes subsample distributions of service use and perceived unmet needs of the individuals with mental distress or SMI. Among those who had mental distress

Table 1 Descriptive characteristics of the sample

Variable	%						
	Overall sample (N=2609)	Chinese (n=640)	Asian Indian (n=574)	Korean (n=471)	Vietnamese (n=513)	Filipino (n=265)	Other Asian (n=146)
Background variable							
Age							
18–39	48.3	47.0	68.6***	38.9***	39.0***	42.2***	47.9**
40–59	31.2	27.7	14.3***	40.2***	38.4***	41.4***	39.7**
60+	20.5	25.3	17.1***	20.9***	22.4***	16.3***	12.3**
Gender (female)	55.2	57.0	39.9***	60.5	57.5	70.0***	54.8
Marital status (not married)	33.4	36.3	25.2***	25.7***	41.7	40.3	36.6
Education (< high school)	18.6	14.2	7.6***	20.3**	36.3***	16.2	20.0
Time in the U.S. (< 10 years)	41.7	41.0	66.0***	37.2	26.0***	30.8**	37.9
English proficiency (limited)	62.4	71.7	44.8***	79.2**	72.9	35.0***	49.3***
Health insurance (no)	14.8	16.2	10.5**	18.3	14.9	11.5	19.2
Chronic medical condition (≥ 1)	28.4	28.6	25.1	27.7	32.6	33.1	19.6*
Mental health status							
Mental distress (K6 ≥ 6)	44.2	38.9	41.0	43.8	54.6***	41.6	48.9*
Serious mental illness (K6 ≥ 13)	6.1	4.8	4.2	7.2	9.2**	5.1	7.1
Mental health service use							
Mental health specialist	4.5	4.4	3.8	3.8	4.0	8.8**	4.8
General doctor	18.0	12.9	25.0***	9.0*	15.7	33.8***	21.2*
Religious leader	5.6	6.3	2.3**	9.6*	4.2	8.1	2.1*
Any mental health service use ^a	23.2	18.5	27.1***	18.3	20.1	39.8***	24.7
Perceived unmet needs for mental health care	6.9	10.6	3.2***	5.8**	6.5*	6.8	9.7

χ^2 analyses were conducted by comparing each ethnic group with Chinese

* $p < .05$; ** $p < .01$; *** $p < .001$

^aA variable used in logistic regression models as an indicator of mental health service use

(K6 ≥ 6 , $n = 1117$), 27% used any mental health service and 12% reported that their needs for mental health care had not been met. The usage rate of mental health specialty care was 7.3% in the overall sample with mental distress. Among those who had SMI (K6 ≥ 13 , $n = 155$), about 37% used any mental health service and more than a quarter (28.3%) reported perceived unmet needs. Less than 12% of those with SMI in the overall sample had used services offered by a mental health specialist, with the proportion ranging from 3.3% in Chinese to 25% in Filipinos.

Compared with Chinese (23.6%), Filipinos with mental distress were more likely to use any mental health service (39.8%). A significant difference was observed in the perceived unmet needs, with Chinese having a higher rate of perceived unmet needs than Asian Indians, Koreans, and Vietnamese. The rate of using any mental health service among Korean with SMI (48.5%) was twice that of Chinese with SMI (20%); however, the small sample size of the subgroups calls for caution in interpreting the group differences.

Predictors of Mental Health Service Use and Perceived Unmet Needs

Logistic regression models of service use and perceived unmet needs were estimated with an independent entry of mental distress and SMI, and findings are summarized in Table 3. The odds of using any mental health service were reduced among those who had resided in the U.S. for fewer than 10 years and those with limited English proficiency than their counterparts. However, the presence of chronic medical condition increased the odds of using any service. With regard to ethnicity, compared to the Chinese, Asian Indians and Filipinos had higher odds of using any service. In addition, the presence of mental health distress and SMI increased the odds of using any service by 1.55 times and 1.85 times, respectively.

Turning to perceived unmet needs, the higher odds were observed among those with lower education, limited English proficiency, and who lacked health insurance. Except for the 'other' category of Asians, all groups demonstrated

Table 2 Service use and perceived unmet needs of the individuals with mental distress and serious mental illness

	Mental distress (K6 ≥ 6) (%)					Serious mental illness (K6 ≥ 13) (%)						
	n	Mental health specialist	General doctor	Religious leader	Any service use ^a	Perceived unmet needs	n	Mental health specialist	General doctor	Religious leader	Any service use ^a	Perceived unmet needs
Overall sample	1117	7.3	18.8	7.5	27.0	12.0	155	11.8	24.2	9.2	37.3	28.3
Chinese	242	7.4	14.5	9.9	23.6	18.7	30	3.3	10.0	10.0	20.0	30.0
Asian Indian	227	6.3	25.7***	3.6**	29.6	6.7***	23	4.5	22.7	4.5	27.3	21.7
Korean	200	6.5	11.6	12.1	25.1	11.5*	33	15.2	21.2	18.2	48.5*	33.3
Vietnamese	272	5.7	16.5	6.8	23.5	11.1*	46	15.6	28.3	6.7	39.1	26.7
Filipino	107	13.7	28.4**	5.9	39.8**	10.5	13	25.0*	33.3	8.3	50.0	33.3
Other Asian	69	8.7	26.1*	2.9	30.4	13.2	10	10.0	50.0**	0	50.0	22.2

χ² analyses were conducted by comparing each ethnic group with Chinese

*p < .05; **p < .01; ***p < .001

^aA variable used in logistic regression models as an indicator of mental health service use

significantly reduced odds of reporting perceived unmet needs compared to Chinese. The presence of mental distress and SMI increased the odds of having unmet needs by 3.91 times and 6.05 times, respectively. It is interesting to note that those who had used any service showed 3.56 to 3.77 times higher odds of reporting perceived unmet needs.

Discussion

The present study was in response to the paucity of information regarding mental health service use in Asian Americans. Attending to the cultural, ethnic, and linguistic diversities in the Asian American population, we explored their mental health status, mental health service use, and perceived unmet needs for mental health care. Our culturally and linguistically sensitive strategies included providing not only Asian language versions of the survey questionnaire but also research personnel (e.g., recruiters and survey assistants) who shared the languages and cultures of the target population. Further, strong partnerships between the research team and key individuals and organizations within the several ethnic communities facilitated the participation of community members. The fact that almost half (48.5%) of 2609 participants used non-English versions of the survey questionnaire suggests that our strategies allowed recruitment of many individuals who are conventionally unrepresented in national surveys.

Our sample of Asian Americans demonstrated a high level of mental health concerns. The prevalence rates of mental distress (44%) and SMI (6%) were notably higher than those reported in national samples of the U.S. general population (18% and 3%, respectively) (Forman-Hoffman et al. 2014). Of greater importance perhaps is that these overall rates are also higher than those reported in the existing national samples of Asian Americans (e.g., Harris et al. 2005; Lee et al. 2011). As noted earlier, limitations in the availability of Asian languages in national surveys may have inadvertently minimized the inclusion of persons with mental health concerns or who face barriers to health care. In the present sample, with the prevalence of 54.6% for mental distress and 9.2% for SMI, Vietnamese were found to be at a particular risk for mental health problems.

About 23% of the overall sample indicated that they had seen mental health specialists, general doctors, and/or religious leaders in the past 12 months about their emotional, mental, and personal problems. Slightly higher than the 18% in the U.S. general population in the National Comorbidity Survey Replication (NCS-R) study (Wang et al. 2005), this difference may derive in part by our sample’s more frequent use of general doctors (18% vs. 9.3%) and religious leaders (5.6% vs. 3.4%) than participants in the NCS-R (Wang et al. 2005). With regard to mental health specialists, on the

Table 3 Regression models of mental health service use and perceived unmet needs for mental health care

	Odds ratio (95% confidence interval)			
	Mental health service use		Perceived unmet needs for mental health care	
Background variable				
Age (ref = 18–39)				
40–59	1.05 (.80, 1.38)	1.01 (.76, 1.31)	.81 (.49, 1.35)	.71 (.42, 1.16)
60+	1.08 (.77, 1.52)	.98 (.70, 1.37)	.93 (.51, 1.68)	.69 (.38, 1.23)
Female	1.12 (.91, 1.36)	1.12 (.92, 1.37)	1.09 (.76, 1.57)	1.11 (.77, 1.59)
Not married	1.08 (.85, 1.36)	1.10 (.88, 1.39)	1.42 (.96, 2.10)	1.41 (.95, 2.09)
< High school	.92 (.69, 1.22)	.92 (.69, 1.22)	1.69* (1.11, 2.59)	1.67* (1.09, 2.56)
Time in the U.S. < 10 years	.74* (.58, .95)	.75* (.58, .95)	.99 (.65, 1.52)	.94 (.62, 1.45)
Limited English proficiency	.69** (.54, .88)	.72** (.57, .92)	1.65* (1.03, 2.62)	1.88** (1.18, 2.99)
No health insurance	1.03 (.76, 1.39)	1.02 (.76, 1.38)	1.93** (1.25, 2.96)	1.94** (1.26, 2.98)
Chronic medical condition (≥ 1)	1.98*** (1.56, 2.51)	2.01*** (1.59, 2.55)	1.40 (.92, 2.13)	1.47 (.97, 2.25)
Ethnicity (ref = Chinese)				
Asian Indian	1.66** (1.22, 2.25)	1.68** (1.23, 2.27)	.28*** (.16, .51)	.29*** (.16, .52)
Korean	.97 (.71, 1.35)	.98 (.71, 1.36)	.45** (.27, .75)	.41** (.24, .69)
Vietnamese	.90 (.65, 1.24)	.94 (.68, 1.30)	.35*** (.21, .59)	.36*** (.21, .60)
Filipino	2.23*** (1.57, 3.17)	2.26*** (1.59, 3.20)	.48* (.25, .92)	.49* (.26, .93)
Other	1.23 (.77, 1.95)	1.26 (.80, 2.01)	.67 (.32, 1.38)	.70 (.34, 1.46)
Mental health status				
Mental distress (K6 ≥ 6)	1.55*** (1.25, 1.90)	–	3.91*** (2.62, 5.83)	–
Serious mental illness (K6 ≥ 13)	–	1.85** (1.25, 2.72)	–	6.05*** (3.80, 9.62)
Mental health service use				
Any use of service	–	–	3.56*** (2.49, 5.11)	3.77*** (2.62, 5.42)
Summary statistic	–2 Log likelihood = 2444.2 $\chi^2/df = 135.7^{***}/15$	–2 Log likelihood = 2452.0 $\chi^2/df = 127.8^{***}/15$	–2 Log likelihood = 961.5 $\chi^2/df = 182.3^{***}/16$	–2 Log likelihood = 961.9 $\chi^2/df = 181.9^{***}/16$

* $p < .05$; ** $p < .01$; *** $p < .001$

other hand, our sample showed a substantially lower rate of use than the general population (4.5% vs. 8.8%) (Wang et al. 2005). Findings are in line with the literature suggesting Asian Americans' reluctance to use specialty mental health care due to the stigma attached to mental health and service use (NAMI 2011). Among ethnic groups, Filipinos were most open and accepting to the use of mental health services; their rates of any service use, mental health specialists, and general doctors were consistently the highest of all groups. The most frequent use of religious leader as a source of mental health care was observed among Koreans (9.6%). This finding is in accordance with previous studies showing that churches play a key function in Korean American communities and their religious leaders often serve as "community mental health allies" (Yamada et al. 2012).

The rate of any mental health service use was 27% in the subsample with mental distress and 37.3% in the subsample with SMI. It is striking that about 63% of the present sample with SMI had not sought any service and that a

majority (88%) had not been treated by mental health specialists. Filipinos with SMI were most likely to receive mental health specialty care (25%) and Chinese with SMI were least likely to do so (3.3%). Considering that almost 60% of non-Hispanic Whites with SMI were users of mental health services (Harris et al. 2005), the service underutilization among Asian Americans with an urgent need for care calls for further attention.

Perceived unmet needs of mental health care were reported by about 7% of the overall sample, including 12% of those with mental distress and 28% of those with SMI. According to the NSDUH, the rate of perceived unmet mental care needs among Asians with SMI was 14.5%, less than half the rate observed in non-Hispanic Whites with SMI (35.4%) and the lowest of all racial/ethnic groups with SMI (Harris et al. 2005). Our sample with SMI was twice as likely to have perceived unmet needs compared to the NSDUH sample of Asian Americans with SMI (28% vs. 14.5%). In general, our sample demonstrated poorer mental

health status, lower use of specialty mental health care, and higher levels of perceived unmet needs than those found in national studies. The finding may draw from the key differences in study methodology, with the NSDUH essentially excluding non-English speaking individuals and the present study embracing them via the use of culturally and linguistically sensitive strategies. Our inclusion of non-English speaking Asian Americans not only helped our sample reflect the diversities of the population but also sheds lights on their adverse status in mental health and service use.

In the multivariate analyses on service use and perceived unmet needs, limited English proficiency emerged as a common predictor. Limited English proficiency increased the odds of both not using mental health services and perceiving their mental health care needs unmet. Limited English proficiency is widely known to pose a critical burden on immigrant populations in their access to healthcare in general (Derose et al. 2007; Jang and Kim 2018) and mental health care in particular (Snowden et al. 2011). Our finding also suggests that limited English proficiency may be the source of the feelings that one's need for mental health care is not being met.

Additionally, mental health service use was found to be promoted among those who had lived in the U.S. for a longer time (≥ 10 years) and who had chronic medical conditions. Familiarity with the mainstream society and its healthcare systems seemed to facilitate the use of mental health services. Perceived unmet needs were also more likely among those who were less educated and had no health insurance coverage. Compared to Chinese, Asian Indians and Filipinos fared better in the use of mental health services. Due to their national histories of British or U.S. occupation, Asian Indians and Filipinos generally have a high rate of English use, which seems to facilitate their access to mental health care. The high odds of having an unmet need associated with the Chinese group membership may also be partly accounted by their high rate of limited English proficiency. Findings also call attention to stigma about mental health because its varying level across different ethnic groups might influence individuals' willingness to use mental health services and to report their use, if any.

Not surprisingly, the presence of mental distress or SMI increased the odds of using services (1.55–1.85 times) and of having perceived unmet needs (3.91–6.05 times). It is interesting to note that those who had used mental health services exhibited 3.56–3.77 times greater odds of reporting unmet needs than those who had not. On one hand, this finding may reflect the elevated mental health care needs among service users. On the other hand, it calls concerns about the quality of services and user satisfaction. In general, negative experiences with received services such as dissatisfaction, discrimination, and ineffectiveness have a detrimental impact on individuals' future care-seeking processes; Asian

Americans in particular may be prone to such impact (Okazaki et al. 2014).

Some limitations to the present study should be noted. First, with the use of a cross-sectional design and a non-representative and geographically defined sample, the present study is limited in drawing causal inferences and generalizing the findings to the larger population of Asian Americans. It should also be noted that mental health status was assessed with a self-report based screening tool for non-specific mental distress. The use of diagnostic tools for mental health conditions and considerations of psychotic disorders are strongly encouraged. Also, cultural relevance of the cut-off scores of the K6 for mental distress and SMI warrants further explorations. Future studies should also attend to the cultural and environmental contexts of mental health services. Because many Asian Americans have limited English proficiency, the availability of service providers who offer culturally and linguistically appropriate services (CLAS; U.S. Department of Health and Human Services, Office of Minority Health 2001) in the area plays a critical role in determining their perceptions and behaviors relating to mental health needs and care. Lastly, further attention should be paid to ethnic variations within Asian Americans. Consideration of the differences in immigration history and sociodemographic background across groups and exploration of ethnic-specific risk and protective factors would help develop services and programs tailored to the needs and challenges of the target community.

Despite the limitations, our findings helped understand care-seeking processes of one of the understudied and underserved populations. The poor mental health status, low use of specialty mental health care, and high levels of perceived unmet needs observed in the present sample are concerning and call attention to mental health services research and practice on Asian Americans.

Acknowledgements This work was supported in part by a grant from the National Institute on Aging (R01AG047106—PI: Yuri Jang, Ph.D.). The support for data collection was provided by the City of Austin's Asian American Quality of Life initiative (Contract No. 26-8275-39, PI—Yuri Jang, Ph.D.). There are no potential conflicts of interest for all authors. No financial disclosures were reported by the authors of this paper.

References

- Center for Behavioral Health Statistics and Quality. (2016). *Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health* (HHS Publication No. SMA 16-4984, NSDUH Series H-51). Retrieved from <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015Rev1/NSDUH-FFR1-2015Rev1/NSDUH-FFR1-2015Rev1/NSDUH-National%20Findings-REVIS-ED-2015.htm#mhi02>.

- City of Austin. (2017). *Asian American Quality of Life*. Retrieved from http://austintexas.gov/sites/default/files/files/Communications/4.2_FINAL_AA_in_Austin_report_from_UT.pdf.
- Derose, K. P., Escarce, J. J., & Lurie, N. (2007). Immigrants and health care: Sources of vulnerability. *Health Affairs*, 26(5), 1258–1268. <https://doi.org/10.1377/hlthaff.26.5.1258>.
- Dong, X., Chang, E. S., Wong, E., & Simon, M. (2012). The perceptions, social determinants, and negative health outcomes associated with depressive symptoms among U.S. Chinese older adults. *The Gerontologist*, 52(5), 650–663. <https://doi.org/10.1093/geron/52/5/650>.
- Forman-Hoffman, V. L., Muhuri, P. K., Novak, S. P., Pemberton, M. R., Ault, K. L., & Mannix, D. (2014). Psychological distress and mortality among adults in the US household population. *CBHSQ data review*. Retrieved from <http://www.samhsa.gov/data/sites/default/files/CBHSQ-DR-C11-MI-Mortality-2014/CBHSQ-DR-C11-MI-Mortality-2014.htm>.
- Furukawa, T. A., Kawakami, N., Saitoh, M., Ono, Y., Nakane, Y., Nakamura, Y., et al. (2008). The performance of the Japanese version of the K6 and K10 in the world mental health survey Japan. *International Journal of Methods in Psychiatric Research*, 17(3), 152–158.
- Harris, K. M., Edlund, M. J., & Larson, S. (2005). Racial and ethnic differences in the mental health problems and use of mental health care. *Medical Care*, 43(8), 775–784.
- Jang, Y., Kim, G., Hansen, L., & Chiriboga, D. A. (2007). Attitudes of older Korean Americans toward mental health services. *Journal of the American Geriatrics Society*, 55(4), 616–620. <https://doi.org/10.1111/j.1532-5415.2007.01125.x>.
- Jang, Y., & Kim, M. T. (2018). Limited English proficiency and health service use in Asian Americans. *Journal of Immigrant and Minority Health*. <https://doi.org/10.1007/s10903-018-0763-0>.
- Kang, Y. K., Guo, W. J., Xu, H., Chen, Y. H., Li, X. J., Tan, Z. P., et al. (2015). The 6-item Kessler psychological distress scale to survey serious mental illness among Chinese undergraduates: Psychometric properties and prevalence estimate. *Comprehensive Psychiatry*, 63, 105–112. <https://doi.org/10.1016/j.comppsych.2015.08.011>.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., et al. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32(6), 959–976. <https://doi.org/10.1017/S0033291702006074>.
- Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., et al. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry*, 60(2), 184–189. <https://doi.org/10.1001/archpsyc.60.2.184>.
- Kessler, R. C., Green, J. G., Gruber, M. J., Sampson, N. A., Bromet, E., Cuitan, M., et al. (2010). Screening for serious mental illness in the general population with the K6 screening scale: Results from the WHO World Mental Health (WMH) survey initiative. *International Journal of Methods in Psychiatric Research*, 19, 4–22.
- Lee, S. Y., Martins, S. S., Keyes, K. M., & Lee, H. B. (2011). Mental health service use by persons of Asian ancestry with DSM-IV mental disorders in the United States. *Psychiatric Services*, 62(10), 1180–1186. <https://doi.org/10.1176/ps.62.10.pss62.10.1180>.
- Lee, S. Y., Martins, S. S., & Lee, H. B. (2015). Mental disorders and mental health service use across Asian American sub-ethnic groups in the United States. *Community Mental Health Journal*, 51(2), 153–160.
- National Alliance on Mental Illness. (2011). *Asian-American and Pacific Islander mental health*. Retrieved from http://www.nami.org/Template.cfm?Section=Multicultural_Support1&Template=/ContentManagement/ContentDisplay.cfm&ContentID=115281.
- Okazaki, S., Tu, M., & Kassem, A. (2014). Addressing Asian American mental health disparities: Putting community-based research principles to work. *Asian American Journal of Psychology*, 5(1), 4–12. <https://doi.org/10.1037/a0032675>.
- Pandya, C., McHugh, M., & Batalova, J. (2011). *Limited English proficient individuals in the United States: Number, share, growth, and linguistic diversity*. Washington, DC: Migration Policy Institute.
- Pew Research Center. (2013). *The rise of Asian Americans*. Retrieved from <http://www.pewsocialtrends.org/files/2013/04/Asian-Americans-new-full-report-04-2013.pdf>.
- Snowden, L. R., Masland, M. C., Peng, C. J., Lou, C. W. M., & Wallace, N. T. (2011). Limited English proficient Asian Americans: Threshold language policy and access to mental health treatment. *Social Science and Medicine*, 72(2), 230–237. <https://doi.org/10.1016/j.socscimed.2010.10.027>.
- Substance Abuse and Mental Health Services Administration. (2014). *Results from the 2013 National Survey on Drug Use and Health: Mental health findings*. NSDUH Series H-49, HHS Publication No. (SMA) 14-4887. Retrieved from <https://www.samhsa.gov/data/sites/default/files/NSDUHmhfr2013/NSDUHmhfr2013.pdf>.
- U.S. Department of Health and Human Services. (2016). *A nation free of disparities in health and health care*. Retrieved from https://minorityhealth.hhs.gov/npa/files/Plans/HHS/HHS_Plan_complete.pdf.
- U.S. Department of Health and Human Services, Office of Minority Health (2001). *National standards for culturally and linguistically appropriate services (CLAS) in health care*. Retrieved from <https://minorityhealth.hhs.gov/assets/pdf/checked/finalreport.pdf>.
- Wang, P. S., Lane, M., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005). Twelve-month use of mental health services in the United States: Results from the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 629–640. <https://doi.org/10.1001/archpsyc.62.6.629>.
- Yamada, A. M., Lee, K. K., & Kim, M. A. (2012). Community mental health allies: Referral behavior among Asian American immigrant Christian clergy. *Community Mental Health Journal*, 48(1), 107–113. <https://doi.org/10.1007/s10597-011-9386->