

Asian American Women's Experiences of Health Care Inaccessibility and Associated Health Outcomes: A Mixed-Methods Study

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ABSTRACT

Objectives: Asian American women face significant barriers to health care access, including socioeconomic, insurance, and language difficulties. The current study aimed to examine Asian American women's experiences of health care inaccessibility and associated health outcomes.

Design: The study used aggregated data from 17 assessment waves (2011-2020) conducted by the Association of American Medical Colleges. A mixed-methods approach was utilized to examine experiences of health care access in 1,626 Asian American women. Logistic regression models were used to test the associations between experiences of health care inaccessibility and health outcomes. Inductive thematic analysis was used to categorize participants' perceptions of access barriers and impacts.

Results: Findings showed high prevalence of health care inaccessibility due to economic and linguistic factors, as exemplified by problems paying for medical bills (31.2%), skipped medical test (32.2%), and language barriers (43.5%). Quantitative results showed that experiences of health

care inaccessibility were associated with two-to-four-fold increases in odds of health problems (i.e., chronic physical condition, depression, functioning impairments), even after controlling for demographic factors. Qualitative results revealed additional barriers to health care, such as transportation and scheduling issues, and perceived effects of inaccessibility such as financial burden, uncertainty over recovery, and distrust in medical systems.

Conclusion: Findings have important implications for informing health care policies to improve access for Asian American women. Medical institutions may alleviate health care barriers by implementing culturally sensitive initiatives such as language assistance programs, insurance navigation services, and media education programs.

Keywords: Asian American women, healthcare access barriers, health disparities, mixed-methods research

INTRODUCTION

Asian American¹ women face disparities in various public domains, including economic status and health care access. For instance, a 2018 Pew Research Center analysis of U.S. government economic data revealed that Asian Americans have the largest within-racial/ethnic group income gap. (1) Consequently, a considerable portion of Asian Americans struggle with poverty (9.6%) and lack of health insurance (6.6%) despite high educational attainment. (2,3) This economic disadvantage is especially pronounced among Asian American women, who are paid 79 cents for every dollar paid to Asian American men. (4) Asian American women's economic challenges have been further exacerbated by the COVID-19 pandemic, as their income, work productivity, and well-being have been disproportionately affected during this time. (5) These economic disparities have resulted in Asian American women having limited means to access health care. (6,7) Systematic reviews and studies with nationally representative samples have revealed that Asian American women are at risk of poor mental and physical health. For example, based on aggregated data from the National Latino and Asian-American Study ($n = 2,095$), Asian American women, compared to the general U.S. population, have higher lifetime rates of suicidal ideation (15.9% vs 13.5%) and suicide attempts (6.3% vs. 4.6%).(8) Further, using a national sample of 1,097 Asian American women, Appel et al. (2011) found high rates of physical health problems, such as high blood pressure (15.7%), arthritis (18.4%), back/neck pain (21.7%), headache (17.6%), and allergies/hay fever (31.4%). (9) Despite these health concerns, Asian American women are also subject to low rates of health care accessibility and

utilization. For example, among Asian American women with high levels of depression and suicidal ideation, 60% reported no access to mental health care and 80% reported a lack of adequate care that meets their mental health care needs. (11) A recent review by Lee et al (11) also highlighted cancer as the persistent leading cause of death for all Asian Americans, with high mortality rates from lung (26%), breast (14%), and colorectal cancer (8%) for Asian American women. Yet, Asian American women reported lower cancer screening rates as compared to the general population (e.g., 64.1% vs. 72.4% for breast cancer screening, and 46.9% vs. 58.6% for colorectal cancer screening).(12) Asian American women's low rates of health care utilization may be partially due to the model minority myth and physician bias.(13) That is, physicians may make clinical recommendations based on the misconception that Asians are typically in excellent health, thus not needing or deserving further medical attention.(13) To date, most existing studies on Asian American health have collapsed across Asian men and women, resulting in a limited understanding of the unique experiences of Asian American women and health care accessibility. From an intersectionality lens, Asian American women hold multiple, intersecting identities across their marginalized racial and gender identities, leading to unique experiences and expectations from others compared to Asian American men.(14) For example, traditional Asian gender norms expect women to prioritize the health of family members over their own, which may compromise Asian American women's care-seeking behaviors when it comes to their own health concerns.(15) Further, Asian American women are economically and politically disadvantaged compared to their male counterparts with equivalent educational achievements, leaving Asian American women vulnerable to poverty and health disparities.(7) Indeed, Asian American women are more likely to experience poor

¹ The authors acknowledge that the term "Asian American" may be incomplete and not capture the diverse identities of Asians who may not self-identify as American. In this paper, we use "Asian American" to refer to individuals of Asian descent residing in the U.S.

mental and physical health than Asian American men (8,10,16); further, more than one in five Asian American women between the ages of 15 and 44 do not have health coverage.(7)

Additionally, in national public health research, Asian American women have often been combined with women of other racial minority identities into one sample. This approach can be problematic because each ethnic/racial group may have different experiences due to their sociocultural contexts which contribute to health disparities.(17) Among Asian American women, for example, the model minority stereotype may exert undue pressure, resulting in struggles to fulfill the expectations to be high-achieving and successful.(18) This pressure can increase risk for psychological distress and risk of mental health problems.(19) Further, many Asian American female immigrants who experienced political warfare in their countries of origin often struggle from somatic and psychological symptoms of post-traumatic stress disorder.(20) Thus, due to their unique sociocultural, intersecting identities, and health contexts, it is important to center Asian American women's experiences with health care access without collapsing their experiences with those of men or across other racial/ethnic groups.

Despite the aforementioned health disparities, there remains a dearth of research that centers health care access and its associated health outcomes in Asian American women. The few existing studies have identified consistent barriers to proper health services for this population across various U.S. regions. This includes demographic factors (e.g., age, education, marital status), medical costs, insurance status, and language proficiency. (21–26) As a result, there is a high prevalence of health care inaccessibility and underutilization among Asian American women. For instance, while 79% of a sample of Korean American women had health coverage, 32% reported never

visiting a health care provider and 14% experienced delayed care in the past 12 months. (27)

As prevalence data continue to demonstrate regular barriers to health care access, it remains unclear how lack of accessibility to health care may be statistically associated with mental and physical outcomes in this population. This information could be critically important to informing public health policies and initiatives to improve access to health care and reduce associated health disparities for Asian American women. Further, research has yet to evaluate how Asian American women perceive barriers to health care and the impact of such inaccessibility on their own mental and physical health. Qualitative exploration of experienced health care barriers and their health implications can provide a more in-depth understanding of how Asian American women experience the health care system, that may not be captured by purely quantitative measures.

To address these gaps, the current study used a mixed-methods approach to evaluate lack of access to health care and its associations with mental and physical health outcomes in a nationally representative sample of Asian American women. We anticipated that Asian American women would report a high prevalence of health care inaccessibility, and we hypothesized that such inaccessibility would be statistically associated with increased odds of poor mental and physical health. We also analyzed qualitative responses on the perceived effects of health care inaccessibility to better understand the impact in Asian American women's daily lives.

MATERIALS & METHODS

Data were collected by the Association of American Medical Colleges (AAMC)' Biannual Consumer Survey of Health Care Access, a cross-sectional national survey conducted twice a year from 2011 to 2020 to assess consumers' experiences with health care services. Eligible participants

indicated needing care in the last 12 months and were recruited from a large online panel (1.5 million in the U.S.). Participants were compensated through a reward system that resulted in accumulating points toward a \$25 gift card or check. The study recruited 3,500 new participants at each assessment wave, and approximately 1,500 of these participants were recruited from select minoritized racial and ethnic groups. For the current study, the sample was composed of participants who identified as both Asian and female, resulting in a sample of 1,626 Asian American women across the 17 assessment waves. Survey content consisted of qualitative open-ended free response questions and quantitative question items. Information on ethics approval and consent is listed under Declarations.

Measures

Health Care Inaccessibility

Care inaccessibility in the past 12 months was assessed by eight items asking about participants' current insurance status, recent lack of insurance, inability to get care when needed, delay in getting necessary care, inability to fill a prescription due to out-of-pocket cost, skipped medical test or treatment due to out-of-pocket cost, problems paying for medical bills, and experienced language barriers during routine/ongoing care in the last 12 months. All items were ranked on a binary scale (0 = No, 1 = Yes) with yes indicating health care inaccessibility.

Mental and Physical Health Outcomes

Mental health outcomes were assessed by two items asking whether participants currently experienced chronic depression or mental health functional impairments (i.e., being limited in daily activities because of emotional health problems that lasted for more than 6 months). Physical health outcomes were measured by two items asking whether participants currently experienced any chronic physical conditions (e.g., arthritis) or physical functional impairments (i.e., being limited in daily

activities because of physical health problems that lasted for more than 6 months). All items were ranked on a binary scale (0 = No, 1 = Yes), with yes indicating presence of a health problem.

Qualitative Description of the Impact of Health Care Inaccessibility

Participants who indicated being unable to get care when needed within the past 12 months were given an opportunity to qualitatively describe the impact this had on them ("When you were unable to get care, how did this affect you?"). Out of 313 participants who indicated inability to get care, 203 participants provided written responses to this open-ended question. Responses that were unrelated, incomprehensible, or otherwise unusable were coded in an "unusable" category ($n = 19$), leaving 184 responses that were coded and analyzed in this study.

STATISTICAL ANALYSIS

Prevalence rates were calculated across all health care inaccessibility measures and health conditions. A series of multiple logistic regression models were used to examine associations between health care inaccessibility (i.e., current insurance status, recent lack of insurance, inability to get care, delayed care, inability to fill a prescription, skipped medical test or treatment, problems paying for medical bills, and language barriers) and each mental and physical health outcome (i.e., chronic depression, mental health impairment, chronic physical condition, and physical impairment). We controlled for education, income, age, sexual orientation, and employment status. Assessment wave was explored as a potential covariate but was not included in final analyses due to insignificant associations with any predictors or outcomes of interest. Missing data across variables was less than 10%; thus, pairwise deletion was used for this large sample (28). Adjusted odd ratios (ORs) are presented for ease of

interpretability. Analyses were conducted using IBM SPSS Statistics 25.0.

Qualitative Data Analysis

For qualitative analysis on the impact of delayed care, we were informed by inductive thematic analysis (29) and qualitative analytic best practices (30) to understand the experiences of our participants. First, three members of the research team who conducted the qualitative analyses (MASKED FOR REVIEW) familiarized themselves with the data by reading and re-reading the qualitative responses. Then, (MASKED FOR REVIEW) generated initial codes about barriers experienced by participants, including codes describing types of barriers and impact of barriers. The two coders then met to discuss the codes they each generated, settling on a preliminary coding scheme that incorporated coding suggestions from both coders. Both coders then independently coded all qualitative responses according to this scheme, effectively double coding all participant data. They met weekly to discuss coding

assignments, discrepancies, and new codes that emerged, as well as thematic ideas from the reflexive and iterative coding process. Upon completion of the preliminary coding of all data, a third coder (MASKED FOR REVIEW) independently coded the data using the established coding scheme, functioning as an auditor to contribute to trustworthiness. The team then discussed patterns they observed across the codes, interpreting themes and narratives found in the data. Team members collaborated to name the themes and discuss the relationships among the themes, in addition to identifying representative quotes for the themes.

RESULT

Sample Characteristics

Sample characteristics are presented in Table 1. Modal demographics of the sample include being between the ages of 25-34 (36.8%), heterosexual or straight (90.4%), employed full-time (39.7%), college graduates (44.4%), and having a median household income of \$50,000-\$74,999 (24.7%).

Table 1 Demographics

Demographic Factor	%
Age	
18-24	22.4
25-34	36.8
35-44	19.7
45-54	11.4
55-64	6.2
65 and above	3.4
Income	
Under \$25,000	12.7
\$25,000 - 49,999	21.9
\$50,000 - 74,999	24.7
\$75,000 – 99,999	16.9
\$100,000 – 124,999	10.3
\$125,000 – 149,999	6.9
\$150,000 and over	6.6
Educational Level	
Less than high school	0.2
Some high school	1.5
High school graduate	10.8
Some college	22.6
College graduate	44.4
Post-graduate	20.5
Sexual Orientation	
Heterosexual or straight	90.8

Gay or lesbian	2.4
Bisexual	6.1
Other	0.7
Employment Status	
Employed full time	39.7
Employed part time	16.9
Home maker	18.7
Unemployed	8.7
Student	11.1
Retired	4.9

Note. % = Percent of relevant sample who endorsed the response.

Quantitative Results

Prevalence of Health Care Inaccessibility and Health Outcomes

Table 2 shows prevalence and associations of health care inaccessibility and health outcomes in the current sample within the past 12 months. Although the majority of Asian American women were insured at the time of the surveys (90.2%), results indicated high prevalence of inaccessibility to health care. Almost one in five Asian American women reported being uninsured at some point during the last 12 months (19.4%) and not always being able to get care when needed (19.4%). Twenty-seven percent reported being delayed in getting necessary medical care in the last 12 months.

Results suggested financial difficulties were common barriers to health care, with 32.2% of the sample skipping a medical test/treatment due to out-of-pocket cost, 27.9% skipping a prescription due to out-of-pocket cost, and 31.2% experiencing problems paying for medical bills. Language barriers with providers were also prevalent, with 43.5% of the sample reporting language barriers when trying to get necessary routine/ongoing care. In terms of mental health outcomes, 18.2% reported having chronic depression, and 15.7% reported being functionally limited by their mental health. For physical health, almost half (48.8%) of the sample reported having at least one chronic physical condition, and 27.5% of the sample reported being functionally limited by their physical health.

Table 2 Prevalence of Healthcare Inaccessibility and Health Outcomes.

Healthcare Inaccessibility	%Yes	Health & Care Quality outcomes	% Yes
Currently uninsured	9.8	Physical health impairment	27.5
Recently uninsured	19.4	Chronic physical condition	48.8
Unable to get care	19.4	Mental health impairment	15.7
Delayed care	27.0	Chronic depression	18.2
Inability to fill prescription	27.9		
Skipped medical test	32.2		
Problems paying bills	31.2		
Language barriers	43.5		

Note. % = Percent of relevant sample who endorsed the response.

Associations between Health Care Inaccessibility and Health Outcomes

Logistic regression results showed significant associations between health care inaccessibility and the health of Asian American women (Tables 3 and 4). With the exception of current insurance status, all health care inaccessibility indicators were linked to poorer mental and physical health.

Specifically, Asian American women who were without health coverage at some point during the past 12 months were 1.77 times more likely to have chronic depression ($p = .008$), 3.77 times more likely to experience mental health impairments ($p \leq .001$), 1.98 times more likely to have a chronic physical condition ($p \leq .001$), and 2.88 times more likely to experience physical health

impairments ($p \leq .001$). Participants who were unable to get care when needed in the past 12 months were 1.59 times more likely to have chronic depression ($p = .032$), 1.59 times more likely to experience mental health impairments ($p = .013$), and 1.80 times more likely to experience physical health impairment ($p \leq .001$); however, inability to get care was not associated with having a chronic physical condition ($p = .190$). Participants who experienced delayed care in the past 12 months were 2.30 times more likely to have chronic depression ($p \leq .001$), 3.78 times more likely to experience mental health impairments ($p \leq .001$), 1.77 times more likely to have a chronic physical condition ($p \leq .001$), and 3.63 times more likely to experience physical health impairments ($p \leq .001$).

There were also significant associations between financially-based health care inaccessibility and health outcomes. Asian American women who reported skipping prescribed medication due to out-of-pocket costs in the past 12 months were 2.67 more likely to have chronic depression ($p \leq .001$), 4.07 more likely to have a mental health impairment ($p \leq .001$), 2.84 more likely to have a chronic physical condition ($p \leq .001$), and 3.64 more likely to have a physical health impairment ($p \leq .001$).

Those who reported skipping a medical test due to out-of-pocket costs in the past 12 months were 2.02 more likely to have chronic depression ($p \leq .001$), 3.50 more likely to have a mental health impairment ($p \leq .001$), 1.96 more likely to have a chronic physical condition ($p \leq .001$), and 2.54 more likely to have a physical health impairment ($p \leq .001$). Those who reported having problems paying for medical bills in the past 12 months were 2.17 times more likely to have chronic depression ($p \leq .001$), 3.30 more likely to have a mental health impairment ($p \leq .001$), 1.76 more likely to have a chronic physical condition ($p \leq .001$), and 2.75 more likely to have a physical health impairment ($p \leq .001$).

Last, Asian American women who experienced language barriers in health care were 2.21 times more likely to have a mental health impairment ($p \leq .001$), 1.75 times more likely to have a chronic physical condition ($p \leq .001$), and 1.58 times more likely to have a physical health impairment ($p \leq .001$); however, language barriers were not significantly associated with chronic depression ($p = .078$).

Table 3 Associations between Health Care Inaccessibility in the Last 12 Months and Mental Health Outcomes

Healthcare Inaccessibility	Mental Health Outcomes									
	Chronic depression					Mental health impairment				
	B	SE	OR	95% CI	p	B	SE	OR	95% CI	p
Currently uninsured	0.13	.36	1.14	0.56-2.30	.724	0.42	.30	1.53	0.84-2.77	.164
Recently uninsured	0.57	.22	1.77	1.16-2.70	.008	1.33	.18	3.77	2.64-5.38	< .001
Unable to get care	0.47	.22	1.59	1.04-2.44	.032	0.46	.19	1.59	1.10-2.28	.013
Delayed care	0.83	.21	2.30	1.54-3.43	< .001	1.33	.18	3.78	2.69-5.33	< .001
Inability to fill prescription	0.98	.21	2.67	1.78-4.01	< .001	1.40	.17	4.07	2.91-5.71	< .001
Skipped medical test	0.70	.20	2.02	1.36-2.99	< .001	1.25	.17	3.50	2.51-4.89	< .001
Problems paying bills	0.77	.20	2.17	1.45-3.23	< .001	1.19	.17	3.30	2.36-4.62	< .001
Language barriers	0.32	.18	1.38	0.97-1.96	.078	0.79	.16	2.21	1.61-3.01	< .001

Note. Models controlled for education, income, age, sexual orientation, and employment status.

Table 4 Associations between Health Care Inaccessibility in the Last 12 Months and Physical Health Outcomes

Healthcare Inaccessibility	Physical Health Outcomes									
	Chronic physical condition					Physical health impairment				
	B	SE	OR	95% CI OR	p	B	SE	OR	95% CI OR	p
Currently uninsured	0.22	.27	1.24	0.74-2.09	.418	0.28	.26	1.32	0.80-2.18	.277
Recently uninsured	0.68	.18	1.98	1.38-2.83	< .001	1.06	.17	2.88	2.06-4.02	< .001
Unable to get care	0.24	.18	1.27	0.89-1.80	.190	0.59	.17	1.80	1.30-2.48	< .001
Delayed care	0.57	.17	1.77	1.26-2.48	< .001	1.29	.16	3.63	2.65-4.97	< .001
Inability to fill prescription					< .001	1.29	.16			< .001
	1.05	.18	2.84	2.02-4.01				3.64	2.66-4.97	
Skipped medical test	0.67	.16	1.96	1.42-2.69	< .001	0.93	.15	2.54	1.89-3.43	< .001
Problems paying bills					< .001	1.01	.15			< .001
	0.57	.17	1.76	1.27-2.44				2.75	2.03-3.72	
Language barriers	0.56	.14	1.75	1.32-2.32	< .001	0.46	.14	1.58	1.20-2.08	< .001

Note. Models controlled for education, income, age, sexual orientation, and employment status.

Qualitative Results

We identified two primary themes in our qualitative analysis of participants' narratives of barriers to health care that demonstrated data triangulation with our quantitative data. The first theme is the presence of structural barriers to health care access; within these theme, subcategories of types of barriers were identified as well, such as insurance, transportation, financial barriers, etc. The second theme is the negative impact of health care inaccessibility on mental and physical health. Within this theme, subcategories of types of impact were also identified, such as emotional distress, poor physical health and functioning outcomes, and financial burden.

Theme one: The presence of structural barriers to health care access

To better understand our quantitative results, we identified structural themes related to perceptions of health care inaccessibility. We identified themes related to insurance barriers, transportation barriers, financial barriers, scheduling difficulties, and inability to get medications, which were consistent with our quantitative results. Many participants described having low to no health coverage and having problems paying for medical bills. For example, an 18- to 24-year-old participant with a part-time job in urban California who was diagnosed with cancer and depression

mentioned their difficulty paying for medical bills, "The hospital gave us a bill that we could not afford, and our insurance covered not as much as we needed it to." Another participant (part-time employed, 45-54yo, urban New York, diagnosed with cancer) described their situation with being uninsured:

I was only uninsured for a month. Got a bad cold and fever, which my doc told me I needed to come in and get checked if that ever happened (as a newly post chemo patient) but my new insurance hadn't kicked in yet so I rode out the cold/pneumonia at home.

Beyond insurance and financial barriers, we identified additional factors that interfered with participants' ability to access care, including transportation barriers and scheduling difficulties. For instance, a participant (unemployed, 45-54yo, rural Arkansas, no reported diagnosis) was unable to get care because they "live in a very rural area and cannot afford to pay for co-payments, prescriptions and the fuel for [their] vehicle to get to the clinic which is over 30 minutes away." Another participant (homemaker, 18-24yo, rural Hawaii, no reported diagnosis) could not get care because they were "having a hard time to get scheduled with the doctor."

Theme two: Negative impact of health care inaccessibility on mental and physical health

In addition to experiences of health care inaccessibility, we also identified qualitative themes related to the impact of health care barriers on mental and physical health. As a result of these barriers, many participants described being unable to get medications, experiencing delayed care, or not getting care altogether. The impact of these experiences of health care inaccessibility was multifaceted. While some participants reported experiencing little to no impact due to the low severity of their condition (e.g., “since it wasn't a horrible sprain, I just lived my life like I would normally”), other participants described a wide range of negative consequences. Specifically, we identified themes related to emotional distress, poor physical health and functioning outcomes, switching providers, use of emergency care, use of self-treatment/home remedies, uncertainty over proper treatment/condition, financial burden, distrust in medical systems, and applying for new insurance.

In terms of mental health, many participants reported experiencing emotional distress as a result of inaccessibility to health care. For example, a participant (part-time employed, 25-34yo, rural Pennsylvania, diagnosed with depression, obesity², and orthopedic problems) described that when they were unable to get care, “it was distressing and has contributed to increased depression.” Another participant (Homemaker, 18-24yo, in suburban Wisconsin, no reported diagnosis) expressed feelings of concern for their health, saying they were “worried if [their health condition] would worsen.” Another participant (unemployed, 45-54yo, suburban California, diagnosed with depression) expressed feelings of agitation

over the situation, “I was upset that I couldn't get [care].”

Physical health consequences of health care inaccessibility include prolonged or worsened health conditions and physical sickness. A participant (unemployed, 35-44yo, urban California, no reported diagnosis) described being delayed care for a week which worsened their health condition, “By that time I was really sick and weak; my infection was beyond its limits.” Due to delayed care, another participant (part-time employed, 55-64yo, rural Texas, diagnosed with obesity) also experienced worsened symptoms, “My eyesight is deteriorating as are my teeth and gums.”

Due to lack of treatment for ongoing medical conditions, a number of participants reported being unable to function as they normally would. For instance, a participant (retired, 55-64yo, suburban California, diagnosed with cholesterol disorder, depression, heart disease, hypertension, and orthopedic problems) described being “in a lot of pain and could barely walk” as they were unable to get care. Another participant (part-time employed, 18-24yo, suburban New Jersey, diagnosed with depression, diabetes, heart disease, and respiratory/lung disease) described their inability to get care resulted in “consistent pain and trouble breathing”, which made it challenging for “intense exercise or work with heavy lifting.” Another participant (part-time employed, 18-24yo, suburban California, diagnosed with depression and respiratory/lung disease) described that their inability to get care led to “constant asthma attacks”, which made them “unable to work, go to school, or attend religious services for a week.”

Worsened health conditions at times would lead to participants' switching of providers despite inconvenience (e.g., not-in-network, far from home) or use of emergency care, which increased their medical bills. Alternatively, when unable to access professional care, some participants reported self-treatment or home remedies.

² Although obesity is listed as a chronic physical condition in the surveys, we acknowledge that the measures of weight or body size do not necessarily reflect an individual's health status. (31)

For example, a participant (student, 18-24yo, in suburban Texas, diagnosed with heart disease) described having to fix their own injuries. As a result, the participant expressed uncertainty over their own recovery, "I had to fix the injuries myself, so I don't think they really healed properly." Another participant (unemployed, 35-44yo, urban Illinois, no reported diagnosis) noted that the inability to get care "adversely affected me, I wonder if I would have recovered from Bell's Palsy better if I had had medical attention."

In addition to mental and physical functioning, other consequences of health care inaccessibility included loss of trust in the medical system. For example, a participant (part-time employed, 25-34yo, living in urban Kansas, diagnosed with heart disease) felt "frustrated and disillusioned with medical system." Another participant (unemployed, 45-54yo, suburban Florida, no reported diagnosis) expanded on their negative encounter with the medical system: I lost my health care insurance after a year of racking up \$12,000+ in medical bills. After an unsuccessful laparoscopy surgery left me in more pain than I started with, my doctor resigned and I had no more health care insurance and lost my job too. My insurance hardly covered anything and I'm still paying off my bill's years later. And [the medical center] sent me to collections for invoices they never sent to me. It was a horribly negative experience.

Dissatisfied with their health coverage, several participants indicated searching for new insurance as a result. For example, a participant (full-time employed, 25-34yo, rural Illinois, no reported diagnosis) described their efforts to "work harder and try to find a better insurance policy by searching for a better job."

DISCUSSION

Although research has established the high prevalence of health care inaccessibility among racial minority groups (32), there is a dearth of research that specifically centers barriers to access and their effects on the

health of Asian American women. Using a national sample of Asian American women, this study is among the first to specifically evaluate the prevalence of health care inaccessibility, the statistical associations of health care inaccessibility with mental and physical health outcomes, and self-reported descriptions of participants' experiences with health care barriers to further support and provide additional context for our quantitative findings.

Our findings provide novel descriptive statistics regarding the prevalence of Asian American women's inaccessibility to health care and the association of these experiences with mental and physical health outcomes. Notably, approximately one-fifth to one-third of Asian American women reported being uninsured, unable to get care, or delayed care within the last 12 months. Further, one in three Asian American women reporting skipping a medical test/treatment or prescription due to out-of-pocket costs and experiencing problems paying for medical bills. Language barriers were also quite common, with almost half of the sample reporting that this factor played a role in preventing access to necessary routine/ongoing care.

Importantly, experiences of inaccessibility were statistically associated with mental and physical health outcomes even after accounting for demographic factors (i.e., education, income, age, sexual orientation, and employment status). Almost all indicators of health care inaccessibility, including current insurance status, recent lack of insurance, inability to get care, delayed care, inability to fill a prescription, skipped medical test or treatment, problems paying for medical bills, and language barriers, were associated with two-to-four-fold increases in odds of poor mental health outcomes. Notably, participants' inability to fill prescription due to costs was associated with a 2.30 increase in risk of chronic depression, and a 4.07 increase in risk of a mental health impairment. However, language barriers were not significantly associated with chronic depression ($p =$

0.078), demonstrating the mixed mental impact of language barriers and suggesting further investigation of the differential effects of this factor.

Indicators of health care inaccessibility were also associated with two-to-three-fold increases in odds of poor physical health outcomes. Notably, inability to fill prescription due to costs was also associated with a 2.84 increase in risk of a chronic physical condition, and a 3.64 increase in risk of a physical health impairment. Although we cannot determine causality from these cross-sectional data, these findings suggest that health care inaccessibility, especially out-of-pocket costs of prescription, may be an important risk factor for mental and physical health disparities among Asian American women. The current study used a mixed-methods approach to examine the rich contextual data of participant perceptions of health care inaccessibility. Overall, qualitative results showed convergence with quantitative results while also providing additional themes and nuance related to experiences of health care inaccessibility among Asian American women. For example, consistent with our quantitative findings, participants emphasized facing barriers related to insurance and financial difficulties. Additionally, in open-ended responses, participants discussed specific challenges related to transportation and scheduling difficulties which were not assessed through quantitative methods. Taken together, economic, language, transportation, and scheduling issues were reported as influential factors contributing to inaccessibility of health care.

The qualitative results further supported the link between health care inaccessibility and poorer mental and physical health outcomes. In-depth descriptions of participants' lived experiences further highlighted the nuanced pathways between inaccessibility and poor health outcomes. For example, several participants described the additional emotional burden of navigating health care barriers with feelings of distress, sadness,

anxiety, and frustration. Participants discussed the use of emergency care and self-treatment or home remedies which may lead to poorer recovery and greater financial burden from medical bills. Other participants discussed how inaccessibility led to a heightened mistrust of the medical system, which may exacerbate low health care utilization rates in this population. Overall, our findings showed the wide range of impacts health care inaccessibility may have on Asian American women, highlighting the need to address barriers to care for this population and proposing implications for public health policy.

Limitations and Future Directions

There are several limitations to consider when interpreting the study findings. First, the nature of retrospective self-report assessments may allow for response biases. Second, the sample only included Asian American women who indicated needing care in the past 12 months, thus limiting the generalizability of the results to the general population of Asian American women. Along the same lines, the variation in participant's geographical locations may also limit generalizability, given the influence of different state-level health care coverage policies.

Third, the nature of this secondary data analysis prevents the current study from examining contexts beyond the available data, including within-groups differences across Asian sub-ethnicities. Last, the cross-sectional nature of the data prevents any conclusions about the directionality or causal nature of the associations between inaccessibility and health outcomes. It could be possible that these factors are instead influencing each other (e.g., participants' preexisting health problems hindered their ability to access health care, which could have further exacerbated their health issues). However, the use of qualitative data may increase confidence in the directionality of our interpretations by providing a sequential context—health care barriers contributing to

worsened mental and physical health—at least from participants' perspectives. Future research may benefit from employing longitudinal methods to examine the impact of inaccessibility on the health of Asian American women over time. Further, in addition to existing barriers to health care (e.g., insurance and financial difficulties), future research can quantitatively explore novel themes that we identified from our qualitative findings, such as challenges related to transportation or scheduling. Similarly, in addition to poor health, future studies can also explore additional effects of inaccessibility including use of emergency care, self-treatment or home remedies, financial burden from medical bills, and medical mistrust. For an in-depth understanding of these themes, a mixed-methods design may be beneficial to obtain both statistical and contextual data.

CONCLUSION

Addressing health care access disparities is a public health priority. Given that Asian American women are at increased risk of both poorer health and health care underutilization as compared to other ethnic groups (11,25), understanding their experiences with health care access may critically inform public health policies to improve access for this population. Based on our current findings, inaccessibility to health care is common among Asian American women, and these experiences are associated with a host of negative mental and physical health outcomes. As such, medical institutions may benefit from adopting specific policies and initiatives that alleviate barriers to health care for Asian American women. Given the high prevalence of language barriers and association of these barriers with health outcomes, improved and more culturally refined language assistance and insurance navigation services may be useful as suggested by previous literature on health care disparities for Asian Americans. (33) Health care providers can cooperate with language interpreters to actively engage

Asian American women in their treatment plans, ensuring a culturally appropriate and collaborative treatment process. Health clinics may also benefit from implementing language-specific media education campaigns to increase community awareness about the importance of preventative care (e.g., cancer screenings). (34)

Financial barriers were also prevalent in the current sample and were similarly associated with mental and physical health outcomes. As such, patients with limited financial and transportation means would benefit from guidance on choosing cost-effective medications, medication delivery services, and financial assistance programs.(34) Based on our qualitative findings, implementation of immunization and screening initiatives may minimize the use of emergency care among Asian American women, which may reduce medical costs in the long run.(33) Overall, findings from the current study should be considered in the implementation of medical practices and policies to improve the access to health care for Asian American women.

Declaration by Authors

Ethical Approval: The authors were granted secondary data access by the AAMC. Every iteration of the survey was reviewed by the AAMC's Institutional Review Board (IRB; Reference #: EX00200). As a part of the review process, the IRB reviewed the consent language provided to participants at the beginning of the survey and ensured the language was at an eighth (8th) grade English reading level. Survey respondents were asked for their consent prior to receiving any survey questions, agreed that they had read the consent statement, and acknowledged the risks and benefits of participating. The current study was exempted from further review by the authors' local IRB due to being a secondary dataset (IRB #: FY21-22-90).

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