

# Navigating the pandemic: an exploration of health behavioral dynamics among Asian Americans during COVID-19

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## ABSTRACT

The COVID-19 pandemic brought Asian Americans sharply into focus, revealing both the strengths and vulnerabilities within this community. Despite a myriad of studies on their experiences and health disparities during the outbreak, gaps persist in our understanding of their health literacy, beliefs, and healthcare behaviors. Leveraging the snowball sampling method, our study engaged 20 diverse Asian Americans, delving into facets ranging from English proficiency and health literacy to cultural health beliefs and preventive behaviors. Notably, participants exhibited high English proficiency and health literacy. Their health choices, shaped by their Asian heritage, showcased a proactive approach to combating COVID-19. Most did not defer or sidestep healthcare, underlining their commitment to well-being. These insights underscore the resilience and adaptability of the Asian American community. By decoding their health behaviors and beliefs, our study aims to refine public health strategies, ensuring they resonate not just with Asian Americans but potentially with other ethnic cohorts amidst global health crises.

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## 1. INTRODUCTION

The COVID-19 pandemic has heightened public attention on Asian Americans, a group historically perceived as a “model minority group,” thereby uncovering significant gaps in health equity research that have previously overlooked the distinct challenges this diverse community encounters [1]. In addition, an elevated all-cause mortality rate among Asian Americans during the pandemic has further intensified scrutiny, underscoring the urgency to address these healthcare disparities [2], [3]. In 2020, a survey of 1,000 Asian adults revealed that 91% expressed concerns about COVID-19, a figure notably higher than the 79% reported by Caucasians and the general U.S. adult population [4]. While many scholars and professionals have delved into the complex facets of the Asian American experience and associated health disparities in the context of the pandemic [5], [6], there is a notable gap in understanding their health literacy, beliefs, healthcare-seeking patterns, and preventive behaviors [7], [8]. These areas hold significant potential to inform future health policy directions.

Research indicates that specific attributes of Asian Americans—such as limited English proficiency, low health literacy, and cultural orientation—influence their health beliefs and behaviors [9], [10]. Limited English proficiency, for instance, has been identified as a major factor contributing to psychological distress in this group, even when compared to other demographic, socioeconomic, and immigration-related factors [11]. This language barrier can not only impede access to healthcare due to communication challenges with

providers [12], but also influence English health literacy and health-seeking behaviors [13], [14]. Some findings even suggest that many Asian Americans seek medical attention only when symptoms become acute [15]. Moreover, a significant portion of the Asian American community gravitates towards complementary or alternative medicine (CAM) due to the rich heritage of Asian traditional medicine, faith in age-old philosophies, and the perceived cost-efficiency [16]. Consequently, it is conceivable that some within this group believe they can derive greater benefits from CAM in preventing COVID-19 infections [17], [18]. Taken together, our current knowledge about the characteristics of Asian Americans and how these traits influence their response to the COVID-19 pandemic remains limited. Grasping the underpinnings and current state of health literacy, beliefs, healthcare-seeking patterns, and preventive behaviors among Asian Americans is pivotal for crafting informed health equity policies for underserved groups.

By employing semi-structured qualitative interviews, this study contributes novel insights on the research of minority health behaviors during the COVID-19 pandemic, particularly within the context of Asian American communities. We found that the Asian American participants, representative of the middle-class demographics, exhibited high self-rated English proficiency and health literacy. These findings challenge assumptions commonly held in health equity research for minority groups [9], [19], [20], and suggests a need for more deep exploration across different socioeconomic strata within Asian American populations. Additionally, our Asian American respondents engaged in assertive healthcare-seeking actions and adopted preventive strategies against COVID-19, which could be interpreted through the lens of their cultural practices and beliefs. This stands in contrast to the generalized narrative of the “disadvantaged” model minority stereotype [21], [22]. These findings add a new understanding to the literature on pandemic responses. This study aims to inform culturally sensitive public health strategies that are effectively tailored to diverse populations, enhancing the pandemic response and beyond for Asian Americans and other marginalized communities. In the long term, our findings contribute to the broader goal of fostering a health-conscious society that respects and understands diverse racial and cultural backgrounds.

## 2. METHOD

### 2.1. Study sample

To delve deeper into the health literacy, beliefs, healthcare-seeking patterns, and preventive behaviors of Asian Americans during the COVID-19 pandemic, we carried out semi-structured interviews in English between December 2020 and July 2021. Given the ongoing pandemic, all interviews were conducted remotely via phone or Zoom to minimize infection risks. A semi-structured interview is an effective tool for conducting small-scale research like this one because interviewers can guide the conversation and keep respondents on the topic with the prepared questions. Interviewees were also encouraged to give open-ended answers to help the interviewers gain in-depth understanding through two-way communications [23]. To identify potential interviewees, we reached out via email to Asian Americans who had participated in a prior survey on healthcare disparities related to COVID-19. We inquired if they, or anyone they knew, would be interested in volunteering for an interview without financial incentives. Leveraging the snowball sampling technique, we successfully interviewed twenty Asian Americans, ensuring representation based on gender and immigrant status. Each session spanned 1 to 1.5 hours and was both recorded and transcribed after receiving the participants' consent.

### 2.2. Study design

We asked interviewees to share their personal experiences, opinions, and self-evaluations on their: i) English proficiency, ii) health literacy, iii) health beliefs, iv) healthcare-seeking behaviors, v) their health-preventive behaviors against COVID-19, and vi) their health insurance coverage. The primary questions included: i) How would you rate your proficiency in English? Do you believe that your ability to understand medical oral and written guidance is supported by your proficiency in English? ii) How would you rate your health literacy? Explain your reasoning. What is your personal health belief? Health belief refers to the degree to which individuals can obtain, process, and understand basic health information both in their native language and/or in a second language to make appropriate health decisions. iii) Do you use complementary or alternative medicine, especially during the COVID-19 pandemic? Why or why not? iv) Do you sometimes delay or avoid seeking medical care, and if so, why? How was your healthcare-seeking experience during the COVID-19 pandemic? Would you like to take the COVID-19 test? v) Are you concerned about the COVID-19 virus? Are you taking preventative measures against COVID-19? Are you aware of any information sources or experience regarding the prevention of COVID-19? Do you think your prevention measures are effective enough to prevent COVID-19? vi) Are you covered by health insurance? If so, what type of health insurance do you have? How important do you consider health insurance to be?

### 2.3. Ethical approvals and data analysis methodology

The human subject approval for conducting this interview was provided by the University of Houston Clear Lake Institutional Review Board (IRB) (Approval number: UHCL20-132). All the data were manually entered (using Microsoft Excel). We employed a conventional content analysis approach, using the data to guide the initial coding framework and thematic identification. One individual handled the coding, while another audited the process to ensure accuracy and consistency.

## 3. RESULTS

In this study, we conducted interviews with twenty Asian Americans: 10 males and 10 females. Half of the participants were U.S.-born, while the remaining 50% were naturalized citizens. We aimed for a balanced representation in terms of gender and immigrant status to ensure diverse perspectives. The demographic breakdown of the interviewees is provided in Table 1.

Table 1. Sample demographic description (N=20)

		N	Percentage
Gender	M	10	50%
	F	10	50%
Age	18-24	2	10%
	25-34	5	25%
	35-44	5	25%
	45-54	5	25%
	55+	3	15%
Education	No HS	2	10%
	HS Grad	2	10%
	Some College	1	5%
	Associate's Degree	1	5%
	Bachelor's Degree	7	35%
	Post-Grad Degree	7	35%
Marital status	Single	4	20%
	Married	11	55%
	Separated	1	5%
	Divorced	2	10%
	Widowed	2	10%
Income	≤\$40,000	2	10%
	\$40,001-\$80,00	5	25%
	\$80,001-\$120,000	6	30%
	\$120,001-\$160,000	4	20%
	\$160,001-\$200,000	1	5%
	≥\$200,001	2	10%
Employment	Self-employed	2	10%
	Full-time employed	10	50%
	Part-time employed	2	10%
	Full-time student	2	10%
	Unemployed	1	5%
	Retired	3	15%
Immigrant status	Native	10	50%
	Naturalized citizen	10	50%

### 3.1. The primary interview results are as below:

#### 3.1.1. High level of self-perceived English proficiency and self-perceived health literacy

All participants expressed strong confidence in their health literacy, attributing it to their educational background and general healthcare awareness. A significant 80% considered themselves proficient in English. This linguistic capability not only empowered them to comprehend general medical directives but also instilled a willingness to seek medical care. Importantly, they felt fully equipped to grasp the CDC's guidelines on COVID-19's severity, trajectory, and prevention methods. As one participant aptly noted:

*"I do not have a language barrier in understanding medical instruction or CDC guidance. I think the CDC guidance are easy to understand even for laymen. I am a professor in Medicine; I studied English since elementary school; all my middle school textbooks were in English."*

Furthermore, every participant described themselves as physically fit, with a keen awareness of their health status. Many emphasized that they conscientiously monitor both their diet and physical activity levels. Of the foreign-born participants, 40% believed their robust health literacy was shaped by the traditional

health practices endemic to Asian cultures. They often immersed themselves in health-related content, be it through reading articles or watching television programs—a cultural norm in many Asian societies. One participant, originally from China, shared:

*“When I have time, I usually read health-regimen related articles from WeChat (a Chinese popular social media), so I am very confident with my basic health literacy.”*

While engagement levels differed, it’s noteworthy that three-quarters of the participants practiced a sense of “autonomy” in managing their health, driven by their self-assessed health literacy. They generally adhered to medical advice from their doctors but felt empowered to adapt based on their understanding. For instance, while many followed prescription guidelines, they might adjust doses or even forgo certain medications if they perceived potential issues. One participant highlighted her decision to decline a prescribed cholesterol medication, citing concerns about its adverse impact on her blood sugar levels.

### 3.1.2. Asian health beliefs anchored in deep-rooted culture

When discussing health beliefs, every participant mentioned their routine use of CAM, including supplements like vitamins and fish oil, as well as traditional remedies such as Chinese medicine, herbal concoctions, and herbal teas. Older participants, those aged 45 and above, frequently incorporated herbal remedies into their meals, adding them to soups or teas. They subscribed to the idea that food and medicine share therapeutic attributes and extolled the virtues of these natural herbs. Similarly, 70% of the younger participants, aged 18 to 45, also recognized the health benefits of CAM, often influenced by their family’s beliefs. As one participant noted:

*“Herb tea and soup is popular in my family and me. I believe they have certain benefits, although it is not so effective as west medicine. I believe they are natural and good.”*

A significant 95% of participants believed that CAM might have bolstered their immune response against COVID-19. One participant even attributed her use of CAM as a preventive measure against the virus. She felt that a specific tea, consumed by her family in her hometown of Chaozhou, China, played a role in warding off COVID-19, citing the low incidence of cases in that region. This suggests that some Asian Americans might place weight on personal anecdotes over rigorous, large-scale scientific studies. Additionally, the same percentage of participants, 95%, felt that traditional Asian herbal medicine offers long-term health advantages due to its comprehensive, holistic approach. In contrast, they viewed Western medicine as being particularly effective for immediate relief and symptom management.

### 3.1.3. Assertive healthcare-seeking behaviors

Half of the participants stated they did not exhibit tendencies to avoid or delay seeking medical care. In contrast, the other half mentioned they typically wouldn’t pursue medical attention unless they deemed their symptoms to be escalating. This hesitation was attributed to: (i) concerns about healthcare costs, (ii) skepticism about the efficiency of the US healthcare system, and (iii) confidence in their health literacy.

In the context of COVID-19, all participants conveyed that they would consider testing only if they exhibited several related symptoms. A mere one or two symptoms wouldn’t prompt them to get tested. As one participant explained,

*“I will go only I feel my symptoms, such as fever, cough, are getting severe in several days. I will not go to test when I only have only one or two symptoms as each of the symptoms is nonspecific by itself. To take the test also take risks.”*

A substantial 95% of participants stated they would inform others if they contracted COVID-19, recognizing that withholding such information could risk transmission. Yet, one participant expressed reluctance to proactively share her status with colleagues, especially since she was working remotely. She felt this discretion would shield her from potential bias, having already faced discrimination against Asians since the onset of the pandemic. She aimed to mitigate any negative impacts on her relationships with colleagues of other ethnic backgrounds during this crisis. Moreover, 70% of participants voiced concerns about the time-consuming process of obtaining a COVID-19 test, fearing it might impact their work commitments. Consequently, unless severely ill, many prioritized their job duties over getting tested.

### 3.1.4. Proactive health-preventive behaviors against COVID-19

All participants were proactive in adopting COVID-19 preventive measures: wearing masks in public, frequent handwashing, using alcohol-based disinfectants, maintaining social distancing, and minimizing outings unless essential. Notably, 80% donned masks even before mandates were implemented

and persisted in using them after such mandates were lifted. An additional layer of caution was exhibited by 30% of the participants, who isolated clothing worn outside, keeping them separate from their indoor attire to minimize potential contamination. A significant 85% expressed concerns about the severity of COVID-19, with two participants particularly alarmed due to their past experiences with the 2003 SARS outbreak. They were convinced that COVID-19 could lead to lingering health issues akin to those observed post-SARS. However, one participant felt relatively at ease, citing the mild impact of the pandemic in his state and the fact that he wasn't in a high-risk age bracket.

Nearly half (45%) of the participants sought COVID-19 prevention guidance from both U.S. sources and media or contacts from their hometowns. A significant 40% expressed diminished trust in the CDC, primarily due to its initial stance against mask-wearing—a measure they deemed essential based on their beliefs and observations of successful pandemic control in Asian countries. Typically, participants juxtaposed information from both U.S. and hometown sources before determining their personal preventive strategies. As one participant reported:

*“I regularly consult WeChat (a popular Chinese social media platform) to understand how the Chinese are preventing COVID-19 and also refer to CDC news. I believe that integrating information from both sources offers a more comprehensive perspective.”*

While 75% harbored reservations about the complete efficacy of prevalent preventive measures like handwashing and mask-wearing, they acknowledged these steps as reasonably effective in reducing infection risk within their states. Additionally, 60% considered vaccination the paramount preventive measure against COVID-19.

### 3.1.5. Extensive healthcare insurance coverage

Moreover, ninety percent of the interviewees had health insurance coverage. Among the insureds, sixty-one percent (11 interviewees) had employer-sponsored health insurance; eleven percent (2 interviewees) had Affordable Care Act (ACA) health insurance; another eleven percent had student health insurance (2 interviewees), and sixteen percent (3 interviewees) had Medicare coverage. Regardless of their coverage status, all participants acknowledged the profound influence of health insurance on their healthcare-seeking behaviors. Insured individuals were more inclined to access healthcare as needed, while those uninsured often postponed or avoided it altogether. As one participant expressed:

*“My insurance coverage is pretty good, I would like to see a doctor whenever necessary.”*

In contrast, half of the participants admitted they would likely forgo healthcare for non-life-threatening illnesses if they lacked insurance. One participant remarked:

*“I definitely avoid seeing a doctor if I do not have insurance because the healthcare costs here are too high.”*

## 4. DISCUSSION

Contrary to prior research, our findings indicate that Asian American participants display high levels of English proficiency and health literacy. This could be attributed to the fact that our sample predominantly represented the middle-class segment of the Asian American community. Their health beliefs and behaviors clearly reflected influences from their Asian cultural roots. Additionally, in a departure from previous findings, half of the participants in our study did not hesitate or abstain from seeking medical care. A significant majority of the Asian Americans we interviewed had health insurance, likely fostering their proactive approach to healthcare. A pivotal insight from our research is the heightened vigilance of Asian Americans during the pandemic. Drawing from their cultural experiences, they've been proactive and meticulous in their preventive measures against COVID-19.

Prior research indicates that significant language barriers can hinder healthcare access among minority groups. In contrast, proficient English skills can enhance the accessibility and comprehension of health information [24]. A majority of participants in this study reported strong English proficiency and robust self-perceived health literacy. This may underscore the correlation between English skills and health literacy. Moreover, studies have shown that sound English proficiency can expand one's health information networks [25]. As such, public health policymakers ought to recognize English proficiency as a key determinant when crafting health behavior guidelines [26]. To effectively cater to marginalized patients, healthcare services should be tailored to their linguistic abilities. Initiatives could include devising “linguistic practices” specific to target demographics and offering “language-appropriate healthcare” [27]. Capitalizing

on mobile and remote human translation services could significantly mitigate the language barriers faced by many, including Asian Americans and other ethnic communities.

Furthermore, in our study, 70% of Asian American participants held a bachelor's degree or higher, which likely contributed to their elevated self-perceived health literacy. Established studies support that those with advanced educational backgrounds typically exhibit stronger health literacy [28]. Additionally, income can substantially influence health literacy [29]. In our sample, 65% of Asian American participants reported household incomes surpassing the U.S. median of \$61,874 [30], which could have further bolstered their perceived health literacy. While some studies posit that Asian Americans might avoid seeking second opinions due to their trust in physicians' authority [31], our findings suggest otherwise. The advanced educational backgrounds, higher income brackets, and strong self-perceived health literacy among our participants appeared to downplay the weight they gave to physicians' counsel. This disparity underscores the pivotal role of social determinants in health policy creation, especially given evidence linking higher health literacy to stricter adherence to COVID-19 preventive measures [32]. Our findings also emphasize that superior health literacy doesn't just enhance understanding but also bolsters informed healthcare decision-making. In light of this, policymakers should consider allocating more resources to bolster health literacy, particularly among marginalized groups that may face barriers to healthcare access or struggle with comprehending healthcare directives.

This study underscores the profound influence of Asian cultural amalgamation on the healthcare behaviors of Asian Americans. Elements of Asian medical traditions, like the use of herbal medicines and the principle of food and medicine interrelation, notably shape the COVID-19 preventive behaviors of this demographic. For instance, rooted in Chinese millennia-old practices is the utilization of traditional remedies and health-preserving habits, such as tea consumption and meditation, to foster wellness [33]. Consequently, several participants held the conviction that herbal concoctions or teas could act as preventive measures against COVID-19, even if scientific validations for such beliefs remain limited [34]. This sentiment is further bolstered by communications among Asian Americans and their broader Asian networks. Gelfand et al.'s exploration of the tightness-looseness theory suggests that certain national attributes and cultural nuances influence individual behavioral tendencies, like adherence to preventive guidelines [35]. They posit that "tight" nations-characterized by high population densities or frequent disease threats-tend to foster strict norms with little deviation tolerance [36]. This perspective might correlate with the observed heightened inclination among our participants to adhere to COVID-19 guidelines set by the CDC or respective Asian nations that was evident by the study of Ponder et al. [37]. In shaping public health initiatives that cater to Asian Americans, policymakers should emphasize cross-cultural understanding. The goal should be to craft community-centric health education and promotion strategies that seamlessly integrate Asian health traditions, fostering both societal and health equity.

Moreover, prior research indicates that healthcare avoidance can be influenced by the associated costs [38], with health insurance coverage playing a pivotal role in decisions to delay or forgo care [39], as well as in the utilization of preventive health services [40]. In our analysis, a significant 90% of Asian Americans reported having insurance coverage over the past 12 months. This robust coverage might be a key factor in their proactive approach to healthcare. These findings emphasize the need for federal, state, and local public health agencies to champion broader healthcare insurance coverage. By addressing accessibility and affordability disparities, we might alleviate financial uncertainties across all ethnic and income groups and pave the way for a more resilient and transformative healthcare system.

Our study reveals that Asian Americans are both informed about and committed to following COVID-19 prevention guidelines. Their adherence to practices such as mask-wearing, abiding by stay-at-home advisories, maintaining social distance, regular handwashing, and using CAM for health fortification is evident. These findings align with a study which highlighted that Asian American college students were more inclined to follow CDC COVID-19 prevention measures and believed in their efficacy, compared to their white counterparts in the US [41].

Considering the waning phase of the COVID-19 pandemic and the gradual return to normalcy, the significance of our study in shaping post-pandemic public health strategies has intensified. It's crucial to leverage the heightened COVID-19 awareness and the proactive preventative health behaviors observed in the Asian American community. This approach would serve as a cornerstone in establishing enduring health resilience in a post-pandemic world. Additionally, public health officials should continue to integrate culturally sensitive practices and knowledge into broader health education and policy frameworks. The current transition period provides an opportunity to reinforce and adapt health strategies to accommodate the varied perspectives and practices found within minority communities. Looking forward, as we emerge from the shadows of COVID-19, our focus should shift to building sustainable and inclusive health systems. Future research should explore a broader range of ethnic and cultural groups to enhance our understanding of diverse health beliefs and practices in the context of public health challenges.

The findings of this study should be viewed in light of certain limitations. First, the sample size for our interviews was limited to twenty participants. A more expansive sample might yield different insights. Furthermore, the participant demographic showed an imbalance. Predominantly, our interviewees hailed from backgrounds with higher education, income, and health insurance coverage. This potentially skews our results towards a middle-class Asian American perspective during the pandemic, rather than offering a holistic view of the broader Asian American community. In addition, the study's temporal scope was restricted, with interviews conducted just once. A multi-stage interview approach might have provided a more nuanced understanding of Asian Americans' perspectives and behaviors.

## 5. CONCLUSION

Through interviews with 20 Asian Americans, this study delves into their ethnic traits and behavioral responses during the COVID-19 pandemic. While the sample size is modest and doesn't encapsulate the entirety of the Asian American demographic, our findings offer fresh insights. Our Asian American respondents self-reported high levels of English proficiency and health literacy, which they attributed to their educational background and general healthcare awareness. This study also sheds light on the deeply ingrained cultural health beliefs within the Asian American community, including the prevalent use of Complementary and Alternative Medicine. This cultural backdrop, combined with a high awareness of COVID-19 risks, has led to proactive adherence to preventive measures amongst the respondents. These insights might be insightful for public health officials, offering a blueprint for developing targeted strategies that specifically bolster the defenses of the Asian American community against future pandemics. Moreover, this study can serve as a catalyst for further exploration into the unique needs of other minority groups, fostering tailored public health strategies. In the long run, such endeavors can enhance our readiness for future public health challenges.

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