Identification of barriers to hearing healthcare access among Hmong older adults in the United States

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Abstract

In addressing healthcare disparities in audiology, the current study aimed to determine the barriers associated with hearing healthcare among Hmong older adults in Northern California. We conducted one-on-one interviews with Hmong older adult participants to learn about their experiences with the etiology of their hearing loss, explore cultural factors, and determine needs and areas of recommendation for audiology clinical practice using the Health Care Access Barriers model. The study's findings identify considerations and needs for further research and development for hearing healthcare professionals who interact with Hmong patients.

Keywords: healthcare disparities, Hmong, hearing loss, audiology

Introduction/Background

Hearing health care is a pressing public health concern, as hearing loss affects almost 20% of the world's population (World Health Organization, n.d.). Hearing loss has been associated with decreased quality of life (Dalton et al., 2003; Mulrow et al., 1990), depression (Lawrence et al., 2020), and social isolation (Mick et al., 2014) in older adults, but hearing aids can help to reduce those negative effects (Dawes et al., 2015; Tesch-Römer, 1997). Audiologists are the healthcare professionals who provide services related to the identification, diagnosis,

assessment, treatment, and management of hearing, balance, and other related disorders across the lifespan (American Academy of Audiology, n.d.). These services, including hearing aids, can be inaccessible for most of the United States population (Coyan & Mormer, 2020), leading to disparities and areas of need for policy changes and greater access.

Examining the intersection between health care and ethnicity has allowed for the identification of health disparities and the informing of culturally responsive clinical practices. An area of limited research is with audiology services among the Hmong population in the United States. The Hmong are an ethnic group from southeast and east Asia. Many Hmong immigrated to the United States during the Vietnam War, and the majority of Hmong live in Minnesota, Wisconsin, and California (Xiong, 2013). Many of the Hmong who live in the United States continue to practice shamanism (Gerdner et al., 2007). According to this belief system, a shaman is able to travel between the present and spirit world for the purpose of healing. In addition to shamanism, the Hmong may worship their ancestors as a means of protection for the family. These two aspects of the Hmong's belief system are also apparent in their understanding of health and illness, leading to categorization of illness and disease as having spiritual or physical causes (Maichou et al., 2017). Familiarity with physiology and human body anatomy, largely unknown due to spiritual beliefs regarding these structures and processes, is limited by a lack of terminology in the Hmong language (Johnson, 2002). As a result, some Hmong believe that western medicine may not be the optimal pathway for treatment, and instead turn to their traditional methods. For chronic diseases, especially, the Hmong are likely to delay treatment until later stages (Ali et al., 2020). Treatment of conditions, such as diabetes, may be managed by home remedies and herbs over prescription medications (Perez et al., 2008).

Due to the differences between the Hmong's traditional beliefs and those of western medicine, understanding the culture and traditions of the Hmong is necessary for healthcare providers, including audiologists, to provide care and communicate with sensitivity. Although there has been research on healthcare, cultural beliefs, and service utilization in medicine and nursing (e.g., Ali et al., 2020; Barrett et al., 1998), these studies have not been conducted in audiology. Therefore, the purpose of this study was to examine the experiences and perceptions of hearing loss and audiology services among the Hmong population in Northern California.

Methods

Design

Due to the limited research in this area, qualitative methodology guided the exploration of themes related to experiences with hearing healthcare in the Hmong population living in Northern California. Within the Sacramento county area, in particular, there are 17,843 Hmong, which represent 16% of California's Hmong population (U.S. Census Bureau, 2022). Semi-structured interviews allowed for the examination of attitudes, personal experiences, views, cultural factors, and perceptions about hearing loss and hearing healthcare services reported by the participants in the study. The interviews were conducted using an interview guide consisting of open-ended questions that were created to align to the study's aims. The interview guide was developed by both authors, and included topics and questions related to basic demographic information, awareness of the etiology and effects of hearing loss, and experiences with hearing healthcare. Following the Health Care Access Barriers (HCAB) Model (Carrillo et al., 2011), which examines disparities and determinants of health, questions related to financial barriers, structural barriers, and cognitive barriers were also added. Experiences with hearing healthcare

were primarily related to audiology. The HCAB model has been used for determining barriers to audiology services in other population (Reddy et al., 2019). The Sacramento State University Institutional Review Board approved this study.

Participants

Monolingual Hmong-speaking older adults were purposively recruited from a local Hmong community center in the Sacramento Metropolitan area. Existing relationships with the Hmong community center in Sacramento were significant in establishing trust with the study population. Individuals were eligible to participate if they had self-reported limited proficiency in English, were a native Hmong speaker, had hearing loss and/or hearing aids, and were at least 65 years old. Participants were recruited until data saturation (i.e., no new emerging themes or new information) (Faulkner & Trotter, 2017).

Interviews

A pilot interview was conducted to identify any revision needs (e.g., vague or unclear wording of questions, alignment of interview questions with the study objectives) to the interview guide. Interview questions were then modified for the subsequent participants. Study data were collected through face-to-face semi-structured interviews that took place in a private room in the participant's home with the second author. The second author, who is fluent in Hmong and knowledgeable of the Hmong culture in the area, conducted all interviews in Hmong, the participants' primary language. Interviews lasted between one to two hours. Interviews were digitally recorded for audio and saved on a password-protected computer. The dialogue from the interviews was then transcribed verbatim into Hmong and later translated into English by the second author. A third bilingual (English/Hmong) adult was also consulted for interpretation and back translation of some participant responses. Before beginning every

interview, Hmong and English versions of informed consent forms (including confidentiality and consent to audio record the session) were reviewed and signed by all participants.

Analysis

Deductive thematic analysis was used to identify the financial, cognitive, and structural barriers associated with the HCAB model. An inductive approach was then used to identify additional themes and codes. Translated transcripts were independently reviewed and analyzed by the two authors after each interview. When individual coding was finished, the two authors met to categorize codes into themes.

Results

Participants

Data saturation was reached after seven interviews. Seven participants (four female, three male) between the ages of 65 and 80 from the Sacramento area participated in the study. All participants were monolingual Hmong speakers. Most participants did not have experience with hearing aids. Participant information is shown in Table 1.

Table 1

Participant background information

Participant	Sex	Age (years)	Hearing Aid Use
1	Female	80	Yes
2	Female	68	Yes
3	Female	76	No
4	Female	69	Yes
5	Male	78	No
6	Male	80	Yes

7	Male	65	No

Cognitive Barriers

Awareness of the Etiology of Hearing Loss

When asked about the cause of their hearing loss, three participants attributed their hearing loss to other senses:

> "When you have hearing loss, you also have problems with your nose. Anything that has a strong smell, you cannot smell or taste it like before. All the things you notice now after hearing loss, you cannot go back to. For example, I remember cooking food that smells really good, but now it is not the same." (Participant #1)

> "As you get older, your veins are bad, your blood is bad. This is why I think I have hearing loss…I believe that there was an injury to the veins that connected my eye to my ears, that is why I have hearing loss." (Participant #3)

> "I have a hearing loss and I have multiple colds throughout the year, so that does not help. I feel that the veins connecting my nose and ear have made me have a decline in my hearing because I have to blow my nose constantly. I think I blow my nose too hard. Every time I blow my nose, I can feel air come out of my ear." (Participant #5)

Another participant reported that his hearing loss was due to noise exposure from his service in the Laotian military:

> "When I was shooting guns as a soldier, my ears started bleeding." (Participant #7)

Family history of hearing loss was also mentioned during interviews.

"Our parents along with their parents showed no signs of hearing loss. The generation before me never complained about body aches or hearing loss. I do not think they ever had hearing loss to feel ashamed about." (Participant #1)

"In our village in Laos, my grandma's family had a history of hearing loss in their family, so my father's family assumed my hearing loss was due to my mother's family." (Participant #2)

Effects of Hearing Loss

Participants reported negative effects of hearing loss on their daily lives, describing feelings of sadness and hopelessness. They also discussed how hearing loss affects their communication with others.

> "When you go somewhere, a person like me who has hearing loss cannot do much. You cannot converse with others because you cannot hear them. It is very depressing, but I just have to bear it." (Participant #1)

> "I am so sad. Having hearing loss makes me so sad. I am so sad. My heart hurts. My ears are telling me that I am now partially deaf. When others talk, they will sound very soft, so I am very embarrassed…If someone talks to you and you cannot hear, and you keep

responding, 'What are you saying? What are you saying?' That is very embarrassing for me. Yes, very embarrassing." (Participant #3)

"But when my hearing loss started to affect my life, I thought to myself, 'Oh, how can I help others now when I cannot help myself anymore?' I was upset. I remember when we took a trip to San Francisco, I kept walking the wrong way even though my family was shouting at me that I was going the wrong way. I could not hear them. However, when I realized that I was walking the wrong way, I turned back and walked back to them. They joked with me, and said 'Oh, you are very capable and would have a good chance." (Participant #4)

"It [Hearing] is very important. For me, if I had an even greater hearing loss, I would feel hopeless." (Participant #7)

Mortality and End-of-life

Participants' reports of their hearing were coupled with feelings of resignation when discussing their hearing as they age, which may contribute to participants not seeking hearing healthcare services.

"I am sad, but at the same time, I am not sad because I grew up with having hearing loss versus someone else who just suddenly lost the ability to hear. So, I am okay with having hearing loss…As us Hmong elders say, 'We are not dead yet, so we just have to keep living until we die." (Participant #2)

> "When it comes to my hearing loss, whether I am happy or not, it does not matter because I am old now…I am content because I can still hear from my left ear, so that is all that matters to me. Even though my right ear cannot hear as well anymore, I am fortunate to be able to hear and talk to others. I am old now and do not know when I will pass away. Even if I fixed my hearing loss, I do not think it would make a difference because I am old now and will pass away soon." (Participant #5)

Hmong Cultural Norms

Cultural beliefs about the etiology of hearing loss arose from two of the participants' interviews.

One participant had a stroke, which she believed caused her hearing loss.

> "We do not have a family history of hearing loss. My mom lived for a long time. She lived up until 100 years old. My mom did not have hearing loss. But it is due to my illness that I have hearing loss. It was my fate." (Participant #1)

One participant reported that her hearing loss was due to emotions surrounding her daughter's marriage:

> "I thought it was because maybe my mother had hearing loss, but when I thought about it some more, I do not think that was the case. I believe what caused my hearing loss was because I was very upset and depressed over my daughter and her marriage. She was

> married to a man who just came out of jail who did not treat her right…I was upset for almost four months. I did not sleep and sat by the door most of the time. I was not myself. I barely ate…One morning, I heard a ringing sound like a bell. I turned around a few times and realized that the volume around me was very low. That was my first realization that I may have had a hearing loss in my right ear." (Participant #4).

Another participant shared how the Hmong community views hearing loss as an embarrassment.

> "You see, our Hmong people are very stubborn, especially the men. I know that for myself, I already feel embarrassed, so this is the same for a lot of Hmong men. They do not like admitting that there is something wrong with them. I rather hear and understand 80% of the time than 50%. For example, if you are talking about horses and then I talk about cows, then those two things are very different." (Participant #7)

Financial Barriers

Cost of Hearing Aids

Participants felt that the cost of hearing aids was high, even those who had purchased hearing aids. Participants who did not have hearing aids said that cost was a barrier, and they reported that they would rather avoid treating their hearing loss than pay for hearing aids.

> "If I were younger, I would ask my children to help me buy new hearing aids, but now I am old, so it is not as important to me anymore." (Participant #1)

> "I cannot afford hearing aids, so I will not be able to wear them. I would just have to forget about wanting hearing aids and let my hearing progress." (Participant #3)

> "Oh, how can I afford them? They are so expensive. My children cannot help me pay for hearing aids; they have kids of their own to support…I would let it [hearing loss] get worse rather than spend a lot of money on hearing aids." (Participant #4)

Despite the perceived high cost, however, they felt that hearing aids would be or were beneficial.

> "I was desperate to wear hearing aids. I really wanted to hear, so I decided to pay out of pocket." (Participant #2)

> "They are expensive, but I am getting old, and being able to hear is important to me. I do not want to make a mistake if someone asked me to do something." (Participant #7)

Experiences with Hearing Aids

A sub-theme focused on hearing aid use emerged when participants were asked about their experiences using hearing aids. Reviews were mixed amongst the participants who had pursued amplification.

> "I can hear people talking in stores with my hearing aid on, but without it, I cannot hear at all. I can only see their mouths moving but not hear them. If my children are asking me a question, I can only answer them with the help of my hearing aid." (Participant #2)

> "I do not like them at all. When someone is talking to you, the volume is very loud. It was not comfortable…I am old now, so I don't need it anymore. The people who have a severe hearing loss like to wear hearing aids, but the ones who have a slight hearing loss prefer to not wear it as much." (Participant #6)

Structural Barriers

Transportation

Lack of transportation or the inability to drive was reported as a reason for not seeking hearing healthcare services or being able to schedule appointments without needing to consult with a family member.

> "My daughters would take me to the appointments, but if they were busy, then my husband will take me…If none of my family members can take me, how would I even get there in the first place? I do not know how to drive." (Participant #1)

> "…because there is no one to take me." (Participant #3)

Interpreters and Language

All participants in the study were monolingual Hmong speakers. Many relied on family members to translate or on interpreters if their provider did not speak Hmong.

> "He [My husband] knew more English than me because he studied when we came to America. My husband and daughters would serve as my interpreter at all appointments." (Participant #2)

> "When I go to the hospital, my children translate for me. My doctor is Hmong, too, so it is easy for me to talk to him because he speaks our language." (Participant #5)

Hmong Cultural Norms

Cultural aspects to health emerged as part of discussions of hearing healthcare providers. Hmong approaches to medicine were described by two participants:

> "The Hmong elderly keep purchasing herbal medicine for body aches. Our arms, hands, legs, and feet hurt. We go out and buy medicinal salon patches to stick onto our bodies. We also eat differently from our children, so I have to purchase my own groceries. I eat this very special pork. I also eat fishes about the length of a hand…I have very particular taste, so after I use my money to buy all these necessities, I do not have any money left over." (Participant #1)

> "Recently, I have been eating some pills that a man on the radio broadcast said it would help cure my hearing loss. I called him and bought some of these pills for him. It did not work. He lied. I lost money." (Participant #2)

> "After the shaman performed his spiritual ceremony, he told my family that when I was away from home looking after our pigs at the farm, I angered a spirit, and because she was mad at me, she hurt my ear to get revenge. So I had to kill and sacrifice a pig for this spirit and after that, I felt fine…After the ceremony, a lot of blood came rushing out of my ear. After it stopped bleeding, we poured some of that "green" medicine into my ear. I felt fine after that…I am assuming she accepted my apology and that was the end of it." (Participant #5)

Discussion

The current study aimed to explore beliefs and barriers associated with hearing loss and hearing healthcare services in the Hmong community. The HCAB model was used in the development of the interview guide and analysis of study data for the purpose of learning how the Hmong adult population in this study perceived and utilized audiology services. We identified the cognitive, structural, and financial barriers that affect the Hmong older adult population in Northern California from accessing audiology services. The insights gained from this study have demonstrated the importance of the cultural variables that affect audiology service delivery to the Hmong population.

First, awareness of the etiology of hearing loss was mixed amongst participants. While some participants associated hearing loss with aging or previous noise exposure, for example, there were some descriptions of hearing loss that were culturally based. Consistent with Hmong beliefs that illnesses have spiritual and/or physical causes, two participants in the study reported that their hearing loss was attributed to traditional Hmong health models. In these cases, shamans may be consulted to treat these conditions (Maichou et al., 2017), as also evidenced in the current study. In addition to shamanism, herbal medicine is part of the healing practices of the

Hmong population (Srithi et al., 2012). Herbal medicine includes fresh herbs, dried bark, and other ingredients. Hmong traditional practices may also extend to include cupping, coining, and spooning, resulting in redness or bruises on the body (Tan & Mallika, 2011; Culhane-Pera et al., 2004, as cited in U.S. Department of Health and Human Services, 2008). It is important that audiologists are respectful of these beliefs and ask patients about their understanding of their hearing loss etiology. This solution can create a dialogue for patients, their families, and providers to discuss the rationale for recommendations or additional services while tailoring the appointment so that the patient feels comfortable (Culhane-Pera, 2001). Providers may also wish to provide written materials through informational counseling; health literacy should be considered when providing these materials (Gaeta et al., 2021).

Second, barriers to accessing hearing healthcare services were identified throughout the HCAB model, including cost, language, and transportation. Given the existing literature on barriers to services related to finances among monolingual English-speaking adults, it is not surprising that these would also be identified in the Hmong older adult sample interviewed in this study. However, this study has identified two other barriers that may not be considered: language and transportation. Many of the Hmong participants rely on family members, usually adult children, to serve as interpreters during appointments. The Hmong language does not have many words for concepts related to medical anatomy and physiology or technology (Johnson, 2002), for example, so family members may have difficulty providing a direct translation of the audiologist's message. As a solution, ideally, an interpreter who has been trained, is proficient in English and Hmong, has experience, and who has the appropriate certification or licensure should be scheduled (ASHA, n.d.). It should also be noted that although an interpreter may be present, the patient may prefer to communicate through a family member. In these cases, it may

be helpful to ask the patient to repeat or summarize what was said, so that understanding can be confirmed.

The participants in this study also reported shame, denial, or embarrassment when discussing hearing loss, which has been echoed by their monolingual English-speaking counterparts. Given the reluctance to seek help for problems from non-Hmong professionals and other Hmong, the approach to counseling and rehabilitation may need to be adjusted accordingly as Hmong patients may not feel comfortable sharing their feelings with those outside the family. Moreover, Hmong older adults may be dissuaded from seeking care if it seems like a burden to other family members (Gerdner et al., 2008). It should be kept in mind that, especially among the older adult Hmong population, most will seek healthcare services in the United States system if there is limited or no benefit from traditional methods of healing (Lor et al., 2017). However, this may lead to delays in seeking care, which is a known issue in audiology regarding hearing healthcare-seeking behaviors and hearing aid uptake (Knoetze et al., 2023). Discussion of the prevalence of hearing loss, particularly with age, and treatment options may allay any reluctance or feelings of discomfort that the patient may be experiencing. Additionally, collaborating with religious or spiritual leaders within the Hmong community may be a pathway to addressing access and awareness barriers.

Although we believe this is the first study to examine beliefs and perceptions around hearing loss and hearing healthcare in Hmong older adults in the United States, the results are limited in their generalization to other areas or populations. That is, other older Hmong populations in the United States may not share the same views or representations as the current study sample. As a result, clinical implications of these findings should also be considered in the geographical and temporal context within which this study was conducted.

This study revealed perceptions and beliefs about hearing loss and audiology services for the Hmong older adult population. By using the HCAB model, we highlighted themes around education, barriers to service provision, and opportunities to engage and be more sensitive to the Hmong culture. With the current study considered exploratory research, we hope that future research will be able to identify additional healthcare barriers for the Hmong population in other parts of the United States so that outreach, education, and service provision efforts around hearing loss and hearing healthcare can be initiated. Additional efforts to expand access and outreach around education of audiology services for underserved populations should include the Hmong (Hatmaker et al., 2010; Watham-Ocama & Rose, 2002), and culturally sensitive models for service provision should be designed for the unique characteristics of this population.

References Cited

1. Ali, A.H., Kang, M.S., Kaur, K., Al adhami, S., & Yuvienco, C.R. (2020). Review of Hmong-related health problems: A quick guide for healthcare providers. *Cureus*, *12*(8), e9808. https://doi.org/10.7759%2Fcureus.9808
2. American Academy of Audiology. (n.d.). What is an audiologist. Retrieved July 13, 2023, from https://www.audiology.org/consumers-and-patients/what-is-an-audiologist/
3. American Speech-Language-Hearing Association. (n.d.). Collaborating with interpreters, transliterators, and translators. Retrieved July 12, 2022, from www.asha.org/Practice-Portal/Professional-Issues/Collaborating-With-Interpreters/
4. Barrett, B., Shadick, K., Schilling, R., Spencer, L., del Rosario, S., Moua, K., & Vang, M. (1998). Hmong/medicine interactions: Improving cross-cultural health care. *Fam Med*, *30*(3), 179 – 184.
5. Carrillo, J.E., Carrillo, V.A., Perez, H.R., Salas-Lopez, D., Natale-Pereira, A., & Byron, A.T. (2011). Defining and targeting health care access barriers. *J Health Care Poor Underserved*, *22*(2), 562-575. https://doi.org/10.1353/hpu.2011.0037
6. Coyan, K. C., & Mormer, E. (2020). Providing hearing education and resources for underserved populations (HEAR-UP) in our local neighborhoods. *Semin Hear*, *41*(2), 124 – 132. https://doi.org/10.1055/s-0040-1708509
7. Culhane-Pera, K. (2001). What listening to patients can teach us. *Western Journal of Medicine*, *175*, 313. https://doi.org/10.1136%2Fewjm.175.5.313
8. Dalton, D. S., Cruickshanks, K. J., Klein, B. E. K., Klein, R., Wiley, T. L., & Nondahl, D. M. (2003). The impact of hearing loss on quality of life in older adults. *Gerontologist*, *43*(5), 661- 668. https://doi.org/10.1093/geront/43.5.661

9. Dawes, P., Emsley, R., Cruickshanks, K. J., Moore, D. R., Fortnum, H., Edmondson-Jones, M., McCormack, A., & Munro, K. J. (2015). Hearing loss and cognition: The role of hearing aids, social isolation and depression. *PLoS One*, *10*(3), e0119616. https://doi.org/10.1371/journal.pone.0119616
10. Faulkner, S.L., & Trotter, S.P. (2017). In *International Encyclopedia of Communication Research Methods.* https://doi.org/10.1002/9781118901731.iecrm0060
11. Gaeta, L., Colella, K., Friedland, E., & Hudson, M.A. (2021). Serving culturally and linguistically diverse patients inside and out of the soundbooth. Part 2: Promoting health literacy. *Hear Journal*, *74*(5), 30 – 31. https://doi.org/10.1097/01.HJ.0000743728.57095.dc
12. Gerdner, L., Tripp-Reimer, T., & Yang, D. (2008). Perception and care of elder Hmong Americans with chronic confusion or tem toob. *Hallym International Journal of Aging*. https://doi.org/10.2190/HA.10.2.D
13. Hatmaker, G., Pinzon-Perez, H., Khang, X., & Cha, C. (2010). The Hmong and their perceptions about physical disabilities: An overview and review of selected literature. *Hmong Studies Journal*, *11*, 1-16.
14. Her, C., & Culhane-Pera, K. A. (2004). Culturally responsive care for Hmong patients. Collaboration is a key treatment component. *Postgrad Med*, *116*(6), 39 – 42. https://doi.org/10.3810/pgm.2004.12.1623
15. Johnson, S.K. (2002). Hmong health beliefs and experiences in the western health care system. *J Trans Nurs*, *13*(2), 126-132. https://doi.org/10.1177%2F104365960201300205

16. Knoetze, M., Manchaiah, V., Mothemela, B., & Swanepoel, D. W. (2023). Factors influencing hearing help-seeking and hearing aid uptake in adults: A systematic review of the past decade. *Trends Hear*, *27*. https://doi.org/10.1177%2F23312165231157255
17. Lawrence, B. J., Jayakody, D. M. P., Bennett, R. J., Eikelboom, R. H., Gasson, N., & Friedland, P. L. (2020). Hearing loss and depression in older adults: A systematic review and meta-analysis. *Gerontologist*, *60*(3), e137 – 154. https://doi.org/10.1093/geront/gnz009
18. Lor, M., Xiong, P., Park, L., Schwei, R. J., & Jacobs, E. A. (2017). Western or traditional healers? Understanding decision making in the Hmong population. *West J Nurs Res*, *39*(3), 400 – 415. https://doi.org/10.1177/0193945916636484
19. Maichou, L., Xiong, P., Park, L., Schwei, R.J., & Jacobs, E.A. (2017). Western or traditional healers? Understanding decision making in the Hmong population. *West J Nurs Res*, *39*(3), 400-415. https://doi.org/10.1177%2F0193945916636484
20. Mick, P., Kawachi, I., & Lin, F. R. (2014). The association between hearing loss and social isolation in older adults. *Otolaryngol Head Neck Surg*, *150*(3), 378 – 384. https://doi.org/10.1177/0194599813518021
21. Mulrow, C. D., Aguilar, C., Endicott, J. E., Tuley, M. R., Velez, R., Charlip, W. S., Rhodes, M. C., Hill, J. A., DeNino, L. A. (1990). Quality-of-life changes and hearing impairment: A randomized trial. *Ann Intern Med*, *113*(3), 188 – 194. https://doi.org/10.7326/0003-4819-113-3-188
22. Perez, M.A., & Cha, K. (2008). Diabetes knowledge, beliefs, and treatments in the Hmong population: An exploratory study. *Hmong Stud J*, *8*, 8-28.

23. Reddy, R., Welch, D., Lima, I., Thorne, P., & Nosa, V. (2019). Identifying hearing care access barriers among older Pacific Island people in New Zealand: A qualitative study. *BMJ Open*, *9*, e029007. https://doi.org/10.1136/bmjopen-2019-029007

24. Srithi, K., Trisonthi, C., Wangpakapattanawong, P., & Balslev, H. (2012). Medicinal plants used in Hmong women's healthcare in northern Thailand. *J Ethnopharmacol*, *139*(1), 119 – 135. https://doi.org/10.1016/j.jep.2011.10.028

25. Tan, A. K., & Mallika, P. S. (2011). Coining: An ancient treatment widely practiced among Asians. *Malays Fam Physician*, *6*(2-3), 97 – 98.

26. Tesch-Römer, C. (1997). Psychological effects of hearing aid use in older adults. *J Gerontol B Psychol Sci Soc Sci*, *52*(3), P127 – 138. https://doi.org/10.1093/geronb/52b.3.p127

27. Thorburn, S., Kue, J., Levy Keon, K., & Lo, P. (2012). Medical mistrust and discrimination in health care: A qualitative study of Hmong women and men. *J Community Health*, *37*(4), 822 – 829. https://doi.org/10.1007/s10900-011-9516-x

28. U.S. Census Bureau. (2022). Selected population profile in the United States. Retrieved from https://data.census.gov/table/ACSSPP1Y2022.S0201?q=S0201&t=020:3766&g=040XX00US06_050XX00US06067

29. U.S. Department of Health and Human Services. (2008). Promoting cultural sensitivity: A practical guide for tuberculosis programs that provide services to Hmong persons from Laos. https://www.cdc.gov/tb/publications/guidestoolkits/ethnographicguides/hmongtbbooklet508_final.pdf

30. Watham-Ocama J. C., & Rose, S. (2002). Hmong immigrants' views on the education of their deaf and hard of hearing children. *American Annals of the Deaf*, *147*(3), 44 – 53. https://doi.org/10.1353/AAD.2012.0207

31. World Health Organization. (n.d.). *Hearing loss*. https://www.who.int/health-topics/hearing-loss#tab=tab_2