

Hmong Cross-Cultural Adaptation of Stroke Educational Material

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ABSTRACT

Background: The presence of significant cultural and language barriers can affect timely, effective dissemination of stroke education for Hmong patients. Our aim was to design stroke educational material suitable for the Hmong community, using culturally sensitive strategies and patient education best practices.

Methods: We collaborated with the American Heart Association/American Stroke Association to adapt existing English educational material for use among Hmong patients. A team of experts in stroke care, patient education, and interpreter services—along with Hmong community members and health care providers—modified the original documents for health literacy and cultural relevance. The revised materials were translated into Hmong. Final edits were made using feedback from the Hmong community.

Results: Eight patient education documents on stroke-related topics were disseminated throughout our health care system and shared with various regional community partners for Hmong patients.

Discussion: Incorporating cultural humility principles is key to providing effective patient education tools for reducing disparities and engaging at-risk populations in disease prevention.

INTRODUCTION

Hmong is an ethnic group originally from mountainous areas of Southeastern China, Northern Vietnam, Laos, and Thailand.¹ Large numbers of Hmong people have resettled in the United States since the Vietnam War, with the majority in California,

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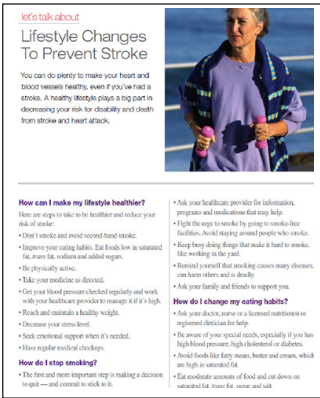
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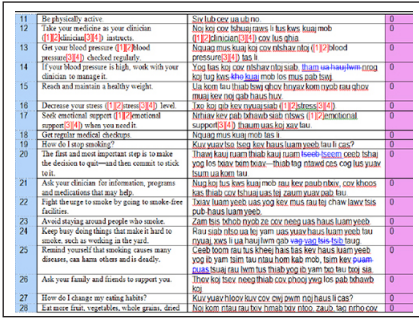
Minnesota, and Wisconsin. According to the 2017 American Community Survey, the US Census Bureau estimated the US Hmong population to be around 320,000, with about 85,000 in Minnesota,² mainly in the city of St. Paul, the location of our hospital. In a previous study, we retrospectively reviewed our institutional “Get With The Guidelines” database and found that Hmong patients presenting with stroke are, on average, 10 years younger than the majority, have poorly controlled risk factors, high rates of particular subtypes of stroke (intracerebral hemorrhage, intracranial atherosclerosis, and small vessel disease), and low rates of utilization of ambulances and rehabilitation facilities.³


In a health literacy survey focused on stroke, we identified not only a knowledge gap among members of the Hmong community, but also a significant language and cultural barrier to closing this gap. For example, there is no equivalent in the Hmong language for the word “stroke,” and about a quarter of respondents either did not know or gave the wrong answer when asked to define or explain stroke. When asked about stroke symptoms, some participants described atypical symptoms, such as fever and pain, and others did not know. Only three-quarters of the survey participants indicated that they would seek medical care immediately if stroke is suspected; 72% thought that a doctor could help and 18% thought a shaman could help. None of the participants indicated knowledge of any of the acute stroke treatments that can reverse the effect of stroke, namely intravenous thrombolysis and mechanical thrombectomy.⁴


We embarked on the current project to close these gaps and to meet our standard of care for providing stroke patients with ade-

Figure. Phases of Cross-Cultural Adaptation of Stroke Education Material

A. 

B. 

C. 

D. 

A) Original document: American Heart Association/American Stroke Association *Let's Talk About Stroke: Lifestyle Changes to Prevent Stroke*; B) word-for-word review and modification of the original document to suit the Hmong reader; C) modified English version after changing the photo to be more relatable to Hmong reader; D) final product in Hmong.

quate stroke education. (No stroke education material was available in Hmong.) The aim was to create material customized for the Hmong community, with clear content and relatable images to be used in educating Hmong stroke patients and their caregivers.

METHODS

To oversee this work, we created a core team that met monthly throughout the project's 14-month course. This team included stroke experts, members of the hospital interpretive services, Hmong health care professionals who are bilingual/bicultural in Hmong/English, and members of the hospital's patient education team. The team reviewed several educational resources available to patients and chose the American Heart Association (AHA)/American Stroke Association (ASA) *Let's Talk About Stroke* series because of its updated information, brevity, and clear message. The team selected eight 1-page documents from the series that best addressed the gaps identified through previous work and obtained permission through a contractual agreement from AHA/ASA to proceed.

Adapting the text from English to Hmong proceeded in 3 stages. The first stage was to rephrase the original text to better relate to Hmong culture. The goal was to maintain the integrity of all the conceptual content but to articulate these concepts in language and contexts relatable to the Hmong community. For concepts that do not have an equivalent in Hmong language, we used a definition or a description of the term. For example, there is no Hmong equivalent to "oxygen," so it was replaced with "the air you breathe" (Figure).

The second phase was translation to the Hmong language. There are 2 Hmong dialects: Green Hmong and White Hmong. We chose White Hmong based on feedback from our bilingual team members that it is the more prevalent and understandable dialect. A certified professional translation firm was hired to translate the modified English version to Hmong. Due to the lack of a Hmong-equivalent, some of the English words were retained. For example, the word "stroke" has no equivalent in Hmong, so it appeared in the Hmong version and was defined upon first appearance in each document. The first Hmong version was reviewed by the project core team and members of the Hmong community for accuracy and readability. After further edits were made, the final Hmong version of the text was created.

The final phase was changing the images included in the original documents to make them more relatable to the target audience. Since this was a cross-cultural adaptation—not just a mere translation—we elected to use different images that depict individuals, activities, and foods relevant to the Hmong culture. A professional photographer from the Hmong community was hired. Hmong community members at an adult daycare were invited to appear in the photographs, and those who volunteered were asked to sign a photo release form. The photoshoot took place at a Hmong adult daycare, the Hmong local market, and the rehabilitation unit of

HealthPartners Neuroscience Center in Saint Paul, Minnesota. Final photo selection for each educational document was reached through team consensus.

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RESULTS

After the images were incorporated with the final version of the Hmong-translated text, the final version of the documents was created (Appendix). The Hmong version and the modified English equivalent were bundled together electronically in a PDF format so that they print together, allowing an English-speaking health care professional to know the content of the Hmong version when providing education.

The final documents were shared with the Minnesota Department of Health, state of Minnesota stroke coordinators, local health care providers, and the Hmong Health Care Professionals Coalition, a community organization comprised of volunteers. Our team returned to the Hmong daycare and shared the final product with the organization and its clients, including those individuals who participated in the photoshoot. The 8 documents are currently in use. Colleagues who used these documents to educate their patients in hospital and clinical settings reported that feedback from patients and families has been positive. A formal evaluation is underway.

DISCUSSION

This project is in response to gaps in patient education and health literacy that our research identified as compromising our standard of care. To our knowledge, this project was the first formal effort to actively target the Hmong population in the United States with stroke-specific education.

Before initiating this project, we questioned the value of print educational material in Hmong, given the realities that (1) migration waves have receded; (2) younger generations of Hmong can communicate in English; and (3) the older generation has relied on oral tradition more than writings. However, the feedback we received from the Hmong community was that print material would be useful as a conversation starter, as well as a resource that provides the talking points and necessary vocabulary for the conversation to be informative. Aside from the educational benefits, we viewed this work as an important effort to reach out to, build trust among, and further develop our institution's relationship with the Hmong community.

Previous research has shown that the lack of effective communication with non-English-speaking stroke patients through professional interpreters is associated with lower quality of care.⁵ We learned from our experience working on this project that effective communication is not only dependent on language, but that important cultural aspects must be taken in account, which makes word-for-word translation of health literacy mate-

rial insufficient, if even possible. These cultural differences cannot be fully realized without employing the cultural humility construct, which is defined as having an interpersonal stance that is other-oriented rather than self-focused, and is characterized by respect and lack of superiority toward an individual's cultural background and experience.⁶ Cross-cultural adaptation of the National Institutes of Health Stroke Scale to different languages/cultures, including Spanish⁷ and Arabic,⁸ has taken these cultural concepts into account. Both adaptations did not translate only the language, but also changed the figures used for testing language function and articulation. For example, instead of unfamiliar items such as a glove and hammock, more familiar items such as a horse and football were used. Another important change was the choice of words to be the standardized words for testing dysarthria, as the original English words had to be changed to words from the target audience's language, keeping in mind that the new words needed to comprehensively test the language-specific phonetic setting. We followed the same model, supplementing it with feedback and active contribution from Hmong community members.

The 8 translated documents cover a wide range of stroke-related topics—from risk factors and prevention to treatment and recovery. Through this publication, we make them available for use by all health care providers and the public (Appendix). Yet, these documents remain educational tools, not the educational process itself. To achieve a culturally competent stroke educational process for the Hmong, further studies need to explore the optimal timing and frequency of exposure, the impact of the surrounding conditions (acute illness versus recovery), role of family members and social network, and the influence of the educator.

In another relevant project, our institution collaborated with the AHA to place a blood pressure kiosk at the local Hmong market (Hmong Village) in St. Paul. This kiosk was supplemented with the Hmong stroke education material we developed so that Hmong individuals who check their blood pressure have immediate access to information about vascular risk factors, stroke warning signs, stroke treatment, and recovery.

Our plan is to formally evaluate the educational material through a survey of patients and their families. The survey will focus on assessing comprehension of the main concepts in each document immediately after first exposure and retention of these concepts in follow-up clinic visits. We also intend to produce a series of short educational videos to be distributed through social media outlets commonly visited by the Hmong community.

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Appendix: Available online at www.wmjonline.org.

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