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Prevalence of Non-conventional and Folk Medicine Usage among Hmong in St. Paul, Minnesota

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PREVALENCE OF NON-CONVENTIONAL AND FOLK MEDICINE USAGE AMONG HMONG IN ST. PAUL, MINNESOTA

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ABSTRACT

Hmong Americans have been identified to utilize various modes of medicine including: folk/herbal remedies, spiritual/shamanistic rituals, and adapted treatments from countries like Thailand or Laos. However, there is a lack of studies that measured the prevalence of these medications among the Hmong community in Saint Paul, Minnesota.

A questionnaire was distributed at a Saint Paul, Minnesota Hmong market to explore the prevalence of Hmong medicine usage. Demographical information was also collected to help determine any relationships that might exist between certain socio-cultural factors and Hmong medicine usage.

The study had a total of 54 participants. Of the 54 participants, twenty-eight (52.0%) participants reported having had used Hmong medicine within the past two years while sixteen (29.6%) participants reported purchasing Hmong medicine within the past two years. Participants who were born outside the US or lived in a household with a person who uses Hmong medicine were more likely to use Hmong medicine ($p < 0.05$). Participants who were female, over the age of 50, born outside the US, spoke primarily Hmong, or lived in a household with a person who uses Hmong medicine were more likely to purchase Hmong medicine ($p < 0.05$)

This study brought attention to the medical practices of the Hmong community in St. Paul, Minnesota. Due to the lack of research in this area, this study served as a starting point into the prevalence of Hmong medicine usage. This study will benefit from future studies as the generations of Hmong communities move forward in time.

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CHAPTER 1: Introduction

Introduction

Recently, some media attention has been brought to the Hmong community in regards to medicine being used and sold at Hmong markets in St. Paul. In June 2013, federal agents raided more than a dozen vendors at a local St. Paul, MN Hmong market and found large amounts of unknown, unlabeled, and/or misbranded drugs being sold as medicine; many containing antibiotics, cyanide, opiates, pain killers, and steroids (Gottfried, 2013). The raid was first initiated due to suspicion of an increasing number of deaths related to cyanide poisoning within the Hmong community. However, despite the warnings of the potential dangers found in these medications, officers reported that some Hmong immigrants would still prefer receiving these non-conventional medications because of their mistrust of Western Medicine (Gottfried, 2013). Mistrust and under-utilization/refusal of Western Medicine have been common findings among the Hmong community, possibly causing many to choose alternative forms of treatment (Thornburn, Kue, Keon, & Lo, 2012). With the opening of several new Hmong markets in Minnesota in the past decade, the availability for both non-conventional and folk medicines has greatly increased. However, there is a lack of literature that has explored the prevalence of non-conventional and/or folk medicine usage among the Hmong community in St. Paul, Minnesota.

Background

The Hmong are an ethnic group from Southeast Asia who immigrated to the US after the Vietnam War. The immigration occurred in waves, with the earliest wave arriving in the late 1970s, and the most recent wave arriving in 2007 (CDC, n.d.).

Currently, the Hmong have settled in greatest numbers in Minnesota, Wisconsin, and California; St. Paul-Minneapolis has become the city with the highest population of Hmong in the United States. Although the Hmong are gradually adapting to the American culture, many challenges continue to pose problems for the community, particularly in the realms of healthcare delivery.

Traditionally, the Hmong have used several different modalities of treatments when dealing with diseases and sickness. Many believe that sicknesses and illnesses are partly due to spiritual and supernatural causes. This belief is the basis for seeking other modes of medical treatment including: shamanistic consultations and rituals to obtain medical relief (Gerdner, 2012). The Hmong were also known to have used "folk medicine" which consisted of a variety of herbal, animal, and mineral remedies used for therapeutic uses. Other medical practices also included massages and acupuncture (Moua, 1996). Presently, many Hmong Americans have become familiar with and accepting of Western Medicine as a mode of treatment. It is not uncommon for some Hmong to supplement their treatments with both traditional and Western Medicine (Johnson, 2002). However, mistrust and/or lack of understanding of Western Medicine remains present within some Hmong communities, particularly the elderly and recently immigrated. These communities have reported reserving Western treatments as a last resort for medical treatment (Thornburn et al., 2012). Moreover, in addition to traditional medicine, many individuals raised in foreign countries such as Laos or Thailand often continue using medicinal practices and medications from their home country as well (Moua, 1996).

When reviewing past literature, many studies have shown an underutilization of Western Medicine within the Hmong community. One of the most apparent examples of underutilization can be seen in the Hmong community's lack of acceptance of cancer screening. In one study of a group of Hmong women, only 16% admitted to ever having had a mammogram and only 52% of the women above 40 reported ever having a clinical breast exam (Tanjasiri et al., 2001). Another study consisting of 122 adult Hmong males revealed that 0% has ever participated in either a prostate or colorectal exam (Yang, Mills, & Dodge, 2006). Separate studies hold similar findings of low screening rates for gastric and cervical cancers in the general Hmong population (Lee & Vang, 2010).

Other literatures have explored factors that might explain the Hmongs' under utilization of medical services and factors that influence their medical decisions. A few of the factors identified were cultural/language barriers (the Hmong's spiritual belief of the body, limited English proficiency, inability to translate illnesses into Hmong due to a lack of words) (Lee & Vang, 2010), health illiteracy (poor comprehension of non-symptomatic and/or chronic diseases like hypertension, no previous experience with preventative care), and limited health access (no insurance, lack of providers that spoke Hmong) (Johnson, 2002).

Statement of the Problem

Evidence shows that members of the Hmong community in Minnesota have been selling non-conventional and/or folk medicines as a form of medical treatment. These medications may have been used traditionally or adapted from other countries/cultures; however the efficacies of these medications have not been established and may contain harmful components such as cyanide (Gottfried, 2013). The problem is further

complicated because of the Hmong's cultural and medical belief systems that may discourage many from seeking professional medical advice. Factors such as a lack of understanding of Western Medicine, distrust in Western providers, and preferences or tendencies towards traditional/cultural medicine have also been identified to contribute to the underutilization of Western Medicine and increased usage of alternative forms of medicine (Johnson, 2002). Therefore, an alarming need exists to evaluate the usage of non-conventional or folk medication usage among the Hmong community, and the possible reasons for choosing these modalities.

Research Purpose

The purpose of this study was to explore the prevalence of non-conventional and folk medicine usage among the Hmong community in St. Paul, Minnesota and also determine the relationship it had with subject demographics such as age, gender, country of birth, religion, and family dynamics. The study helped bring attention to the medical practices of the Hmong community and may be used in the future to address healthcare literacy, medical awareness, and/or intervention.

Significance of Study

Evidence exists that illustrate the Hmong's wide variety of medical practices in the USA. However current literature is lacking evidence that measures the prevalence of healthcare practices among the Hmong community in St. Paul, Minnesota, specifically the usage of non-conventional and folk medicine. This study allowed for a means to observe trends in the Hmong's medical practices and preferences. By determining the prevalence of the issue, the goal was to bring attention to the problem, identify the need for prevention or intervention programs, and to provide healthcare professionals with a

better understanding of the medicinal tendencies of Hmong patients. Furthermore, due to the lack of research in this area, it served as a platform to open further discussions regarding this issue with the Hmong community as well as with healthcare providers.

Research Questions

The research questions addressed in this study are as stated below:

1) What is the prevalence of non-conventional and folk medicine usage among the Hmong community in St. Paul, Minnesota?

2) What is the relationship between Hmong medicine usage and certain demographical characteristics (i.e. age, gender, country of birth, religion, primary language, and family dynamics)?

Definitions

Non-conventional medication is defined as the drugs, pills/tablets, syringes, and formulas that were dispensed without professional medical advice; these may include medications from other countries, unlabeled, unbranded, pills, syringes, IVs, etc.

Folk medication is defined as the remedies created from herbal, animal, and mineral sources; these may include leaves, roots, seeds, stalks, bark, clam shells, rhinoceros or deer horn, python, pheasant spur, and red ants, limestone, anthill dust, plain dirt, and gold and silver (Moua, 1996).

As a general term, Hmong medication refers to both non-conventional medication and folk medications used within the Hmong communities.

CHAPTER 2: Literature Review

Introduction

This chapter focuses on the literature that aids in describing the Hmong community's herbal and traditional medical practices, belief systems, and also their views towards Western Medicine and practices. Many of the articles discussed below helped to define the perspectives among the Hmong in regards to healthcare as well as identify factors or barriers that may affect the Hmong in their healthcare decisions. The majority of the studies provided general qualitative data through the process of interviews; however limitations that were common among the studies included: 1) small sample groups that may not be representative of the entire Hmong American population; and/or 2) high amounts of qualitative and subjective data as a result of open-ended interviews without exploring facts or proof beyond the participants' words.

Hmong Health Beliefs: Traditional Medicine and Shamanism

Historically, the Hmong have been identified to have a unique healthcare belief system. In Laos, herbal medicines, remedies, and spiritualistic rituals were central to the health maintenance among the Hmong. Today, these practices are still continued among Hmong communities in America and have been a topic of interest for many. Studies have explored the Hmong's medical beliefs towards Western Medicine and shamanism, and also their usage of various kinds of herbal treatments. The following articles mentioned are important because they explain and provide background on the usage of traditional treatments among various Hmong American communities while also qualitatively analyzing their attitudes towards such treatments.

The use of herbal and traditional medicine among the Hmong can be outlined in the study titled "The Uses of Herbal Medicine in Healthcare Practices of Hmong Refugees, and Policy Implications in Merced County, California (Moua, 1996). One of the main purposes of this study was to identify traditional healthcare beliefs in herbal treatments among the Hmong; particularly exploring where the Hmong find herbal plants, the percentage of Hmong that use herbal remedies before seeking Western medical treatment, and how the herbal remedies are used or prepared (Moua, 1996).

The use of herbal medicines has been used in the Hmong healthcare system and society for centuries. Traditionally, herbal medicines have been one of the few resources available for curing diseases and healing injuries; this practice has continued being practiced within the Hmong American community (Moua, 1996). To examine the use, practices, and beliefs on herbal medicine among the Hmong, data was collected by interviewing Hmong shamans, healers, and herbalists; and administering questionnaires to the general Hmong population of Merced County, California. The interviews/questionnaires identified demographics (gender, age, religious beliefs, and education level), experience with Western medical systems, personal medical preferences, and practices related to herbal medicines (Moua, 1996).

The results of the study identified various methods of self-treatment options among the Hmong; including the use of a variety of herbal medicines, traditional/spiritual healing rituals (shamanism), acupressure, spoon-rubbing, coin-rolling, and cupping (Moua, 1996). According to this study, the use of herbal medicine among the study group was quite common: 73% of the participants admitted to having used herbal medicine. When asked where the herbal and traditional medicines were obtained, many users

reported that the herbals were home-grown, gathered from the wilderness, or purchased from community herbalists or healers. When asked about their beliefs and attitudes towards traditional remedies and Western Medicine, several participants held firm beliefs that the Hmong should practice traditional healing while reserving Western healthcare services for cases of emergency or when traditional medicine fails. Other participants expressed the usage of both Western and traditional medicines as acceptable treatment options, however a few participants still held a strong preference towards herbal medicine out of familiarity or because of their belief that it was better for curing pain (Moua, 1996).

In the article "Hmong Health Beliefs and Experiences in the Western Health Care System", Johnson identified Hmong perspectives and beliefs that influence the Hmong in Western medical situations (2002). The study followed ethnographic methods of participant observation and interviews. The data was collected from interviews with 19 Hmong patients or employees at a primary care clinic in Central California. The interview included a variety of questions regarding perspectives and beliefs on the human body, diseases, and organs and personal experiences with Western Medicine (Johnson, 2002).

While this study is small, the results of the study suggested that several factors potentially influenced the Hmong's experience with Western Medicine. According to the article, the Hmong in Laos historically had little exposure to Western Medicine or education. Within the study group, many lacked understanding of the complexities of the human body and its organs. Most of the participants also voiced a lack of prior experiences with diseases such as chronic illnesses prior to coming to the US (Johnson,

2002). Moreover, Johnson identified that the Hmong language lacks words and terms to describe medical terminology, anatomy, and physiology; making it more difficult to translate Western medical concepts for comprehension (2002). Another issue that was frequently discussed among elder participants was opium as a treatment option. Opium was considered their most powerful herb in alleviating pain, anxiety, and "old people's problems" (Johnson, 2002). Therefore, many of Hmong elderly had the expectation that Western Medicine would also have the same immediate effect as opium which also led them to be suspicious of Western Medicine, especially towards the medications with side effects that would actually make them feel worse (i.e. medications for diabetes and hypertension) (Johnson, 2002). Another belief system that encompassed the Hmong culture was the belief in spirits and ghosts. Many Hmong believe that some illnesses have an underlying spiritual cause such as losing one's soul or through angered spirits and ghosts. Disease states without an obvious physical cause usually fell into this belief system of a potential spiritual cause. In these cases, the Hmong may often consult spiritual healers within the community for healing rituals in addition to or against Western treatments (Johnson, 2002). The last issue that Johnson discussed was the hierarchical system of decision-making in the Hmong community; where important decisions are often made by the oldest male family member rather than the individual. This may often lead to delayed or refusal of Western treatments (2002).

In the article "Shamanism: Indications and Use by Older Hmong Americans with Chronic Illnesses", Gerdner explored the health seeking behaviors among older Hmong Americans with chronic illnesses (2012). Basing information from past studies, Gerdner defined the traditional uses and beliefs of Hmong shamanism as a means to promote and

maintain spiritual harmony. Spiritual healers are particularly sought out in cases of illnesses, often performing rituals to appease spiritual disturbances. Remedies such as herbs and dried animal parts may also be used in conjunction with spiritual healing (2012). With the understanding of the Hmong's medical belief system; the purpose of the study was to analyze the Hmong's health seeking behaviors. The study's data was gathered by qualitative interviews of 35 older Hmong Americans with chronic diseases; addressing their healthcare thoughts, beliefs, and practices (Gerdner, 2012).

The results of the study identified criteria for determining health seeking behaviors in choosing whether to seek services of a spiritual healer or a physician. According to the article, spiritual healers and physicians were viewed as having distinct roles. Spiritual healers and shamans were usually consulted if the cause was spiritual in nature. Spiritually-caused symptoms included feelings of being tired, stressed, or a loss of appetite. On the other hand, physicians were sought when physical pain or injuries were the source of illness (Gerdner, 2012). However, the statistics showed that 51% of the participants would consult both spiritual healers and physicians. Of these participants, several thought it would be best to treat illnesses from a dual perspective; treating both the physical and spiritual aspects of illnesses. Moreover, 40% of the participants indicated that they would consult only physicians; this was often due to religious preferences or limited access to spiritual healers. Lastly, 9% of the participants indicated that they would consult only spiritual healers; this was due to an inability to afford medical treatment or personal beliefs that conditions such as depression, memory impairment, and confusion should be treated with spiritual means.

Hmong and Western Medicine: Medical Mistrust and Barriers

The underutilization of Western medical practices among the Hmong community has been observed in various studies. These findings are especially obvious when examining the low rates of screening for cervical, breast, and prostate cancers. To better understand the low rates of healthcare utilization, several studies have been designed to identify and examine factors that may act as barriers in utilizing healthcare for Hmong Americans. The following articles mentioned below helped to identify these barriers by examining how the Hmong community interacts with and comprehend Western practices. Also, these articles provided a more holistic view of the Hmong's medical behaviors by exploring their culture, belief systems, and feelings toward Western Medicine.

The article titled "Barriers to Cancer Screening in Hmong Americans: The Influence of Health Care Accessibility, Culture, and Cancer Literacy" explores potential barriers that may lead to an underutilization of cancer screening in Hmong Americans (Lee & Vang, 2010). In this article, Lee & Vang provides information about high mortality rates among Hmong Americans in particular cancers (stomach and liver cancer) seemingly due to late stage diagnosis of the cancer (2010). To better understand the screening behavior of the Hmong, barriers in three major areas were examined: factors relating to health access, cultural, and cancer literacy. These barriers were evaluated through the analysis of articles found from various academic search engines that focused on Hmong Americans and cancer screening, beliefs, literacy, knowledge, incidence and mortality. Twelve articles were found and analyzed according to 5 categories of contribution: 1) empiricism; research that contribute quantitative or qualitative knowledge; 2) technology; research that provides information on assessment tools

relevant to practice; 3) conceptualization; articles that offer theoretical or abstract summaries; 4) valuation; papers that provide ethical or moral positions; and 5) commentaries; that contribute by taking a position on an issue (Lee & Vang, 2010).

After the analysis of the articles, this study identified common themes and sources of possible barriers that may account for the underutilization of cancer screening among the Hmong. These barriers were grouped into three categories: issues related to healthcare access, cultural beliefs, and medical/cancer illiteracy (Lee & Vang, 2010). Issues affecting healthcare access included not having health insurance; the race/ethnicity of the healthcare provider; and immigration-related issues (i.e. language capabilities and the number of years in the US. Cultural barriers that negatively influenced screening behaviors included: trust in traditional or spiritualistic medicine, heightened modesty in exposing one's self, patriarchal decision making, and a general mistrust in Western Medicine. Lastly, barriers stemming from medical and cancer illiteracy include misconceptions of the etiology and treatment of cancer and beliefs that screening is unnecessary in the absence of symptoms (Lee & Vang, 2010).

Another article that explored beliefs and attitudes towards cancer screening among the Hmong is "Understanding Hmong Women's Beliefs, Feelings, Norms, and External Conditions about Breast and Cervical Cancer Screening" (Lor et al, 2013). In this article, Lor et al describes the psychosocial factors and external conditions that Hmong women encounter with breast and cervical cancer screening. The design of the study included a qualitative approach of examining Hmong women's experiences through interviews. The study consisted of 16 women. The ages of the participants were ranged 24-73, noting that thirteen of the women were born outside of the US.

According to the study, most of the participants displayed a lack of understanding of the etiology and treatment of cancer; expressed embarrassment with screening procedures; and mentioned socio-cultural norms that discouraged them from seeking screening (Lor et al, 2013). Other beliefs that were identified to add to the declination of screening habits included negative previous experiences, concerns of confidentiality, spousal disapproval, and poor connection with the providers (Lor et al, 2013).

The article titled "Cancer Screening, Reproductive History, Socioeconomic Status, and Anticipated Cancer-related Behavior among Hmong Adults" also examined the disparities and low rates of cancer screening among the Hmong population. The purpose of this study was to evaluate patterns and behaviors among Hmong adults in regards to cancer screening and reproductive history (Yang et al, 2006). The study was conducted by survey interviews of 248 Hmong adults (18+) in Fresno, California. The survey included 38 questions that focused on demographics and cancer screening, reproductive history, and health behaviors associated with cancer.

The results of this study in regards to cancer-related health behaviors indicated that less than 1% had been diagnosed with cancer. Examining the screening behaviors, 0 of the 248 participants reported having a colorectal exam. Among the males at risk for prostate cancer (age > 40), none had reported having a PSA test done. For women, 30% reported having performed a breast self-exam; and 89% of those reported having had a mammography within the last year. For cervical cancer screening, only 28% of all females reported ever having a Pap test. (Yang et al, 2006). When asked whom the participants would see first if diagnosed with cancer, 82% reported they would seek medical doctors, while 10% would seek other healers first. When asked about their

treatment preferences; 64% reported chemotherapy, radiation, or surgery would be their first choice, whereas 11% would prefer to use traditional healing methods. However, 61% expressed they would use both Western Medicine and traditional medicine concurrently, and 6% reported they would only resort to Western treatment after exhausting all traditional treatment options (Yang et al, 2006).

The article "Hepatitis B Knowledge, Screening, and Vaccination among Hmong Americans" examined the knowledge, screening, and vaccination behaviors of hepatitis B among the Hmong community. Kue & Thorburn explored Hmong men and women's knowledge and behaviors towards hepatitis B by examining screening and vaccination habits, knowledge of transmission, and what hepatitis B means to those who are infected (2013). The data was collected by in-depth interviews that focused on the points mentioned previously in regards to knowledge and behavior towards hepatitis B as well as participant demographics. The study had 83 participants; 44 women and 39 men (Kue & Thorburn, 2013).

For hepatitis B screening and vaccination, the study showed that 53% reported being screened and 50% reported getting vaccination for hepatitis B. Of these participants, several explained that the procedures were required for school or work. According to Kue & Thorburn, the majority of participants had low knowledge or misconceptions of virus transmission (2013). Moreover, many of the participants with hepatitis B reported not having a thorough understanding of their illness; including the etiology and complications, this may be partly due to poor health literacy (Kue & Thorburn, 2013).

The article "Medical Mistrust and Discrimination in Health Care: A Qualitative Study of Hmong Women and Men" explains how various factors such as medical mistrust, a lack of medical understanding, culture, and tradition may pose as barriers and influence the cancer screening behaviors of the Hmong community. Again, Thorburn et al, mentions the low rates of cancer screening among the Hmong, therefore the purpose of this study was to explore the mistrust and trust of Western medical practices among the Hmong, as well as identify experiences with discrimination in healthcare to see how these factors may affect screening behavior (2012). This study was conducted with interviews of 83 participants. The interview questions focused on the participants' trust/mistrust of Western Medicine and US healthcare system as well as asking for positive/negative experiences.

According to Thornburn et al, the majority of participants indicated a trust in Western Medicine and in the healthcare system, while some shared ideas of mistrust usually due to a lack of understanding or familiarity. Other reasons for mistrust that were identified included: fear of being studied, differences in race and language barriers, belief in traditional medicine, and negative beliefs about Western Medicine (2012). A few of the participants voiced an experience of having been treated disrespectfully, unfairly, insensitively, or rudely which affected their willingness to seek care. It was discussed that medical mistrust and discrimination in healthcare had a negative impact on breast and cervical cancer screening; however these factors did not characterize the participants' screening experiences (Thornburn et al, 2012).

An article that explored the thoughts and understanding of chronic illnesses among Hmong shamans was "Chronic Illness and Hmong Shamans". The purpose of this

study was to assess how Hmong American patients understood the nature, effects, and management of their chronic illnesses such as diabetes and hypertension (Helsel et al, 2005). Because Hmong shamans were identified to hold an invaluable position within the community as leaders and healers; the analysis of Hmong shamans' beliefs on chronic illnesses was thought to be somewhat representative of ideas shared among the broader Hmong population. The data was collected through interviews with 11 shamans between the ages of 45-65.

Results of this study indicated that many of the participants had minimal knowledge of their chronic diseases in regards to the etiology, complications, and treatments. This may be in part due to a lack of knowledge or exposure to these diseases. Many expressed that in Laos, chronic diseases did not exist; "sick people were either cured or died" (Helsel et al, 2005). This idea was also reflective of the participants' thoughts on Western treatment plans. According to the article, there was a considerable amount of confusion about curing and controlling diseases; which in turn meant confusion with the management of their own illnesses. Some participants admitted to only taking their medications when symptoms occurred; seeing no benefit in taking medication if they otherwise felt fine (Helsel et al, 2005).

Conclusion

This chapter has reviewed various articles from the medical literature that explored concepts surrounding the Hmong community and their views and perspectives of healthcare. A few articles identified traditional medical practices among the Hmong; these included herbal/organic remedies, shamanistic/spiritual healing rituals, and other methods of treatment such as acupressure, spoon-rubbing, coin-rolling, and cupping

(Moua, 1996). Other articles focused on belief systems among the Hmong and its influence on healthcare seeking behaviors. Factors that were identified as barriers towards Western healthcare utilization included: a lack of knowledge or experience with illnesses and treatments (Kue & Thornburn, 2013); factors affecting healthcare access, i.e. health insurance, race/ethnicity of healthcare provider, and immigration-related issues; and cultural factors i.e. trust in traditional or spiritual treatments, heightened modesty of exposing one's self, and patriarchal decision making (Lee & Vang, 2010). These findings help in establishing a background of the Hmong's healthcare behaviors which may be used to better understand their use of herbal or non-conventional medications.

CHAPTER 3: Methodology

Introduction

The purpose of this study was to explore the prevalence of Hmong medicine usage among the Hmong community in St. Paul, Minnesota and also observe trends that explore the relationship between Hmong medicine usage and subject demographics such as age, gender, country of birth, religion, and family dynamics.

The sections of this chapter will cover the general design of the study including: population and sample, study design, materials, data analysis, validity/reliability, and limitations of the study.

Population and Sample

The subjects of this study were general adult members of the Hmong community in St. Paul, Minnesota. Subjects were over the age of 18 and chosen without considerations towards gender, economic status, health status, or religion. Subjects were chosen by convenience sampling from one Hmong market within St. Paul, Minnesota where a large influx of Hmong customers exists. Permission to distribute questionnaires was granted by the market place's management (See Appendix A). Participants were chosen over a three day period at random upon them entering the market place. The participants were prompted by the researcher to fill out the questionnaire. Participation from the subjects was purely voluntary.

This study was used to observe trends within the community and did not measure for statistical significance. Therefore, an arbitrary number of 50 participants was decided to be the minimum number of subjects required to observe for trends. Since age is an

important demographical factor, an attempt to have equal numbers of subjects from each age group was made.

Study Design and Materials

This research study was a descriptive and qualitative pilot study targeting general members of the Hmong community in Minnesota. This pilot study collected data through an in-person, paper questionnaire (See Appendix B) over a course of three days. The questionnaire consisted of 14 questions that gathered information regarding the subjects' demographics and their interactions and practices with Western Medicine and Hmong medicine. For the purposes of this study, trends were observed that may or may not have suggested associations between participants' demographics and their medicinal practices. Questionnaires were completed on a voluntary-basis. Subjects were required to agree to a letter of informed consent (See Appendix C) in order to participate in the study. No personal information, including names, age, addresses, phone numbers, etc., was collected to maintain confidentiality. The questionnaires were written both in English and Hmong to minimize discrepancies due to language barriers. To assess clarity and ease of understanding, the questionnaire was reviewed by other members of the Hmong community prior to it being distributed. Formatting of the questions included yes/no and short answers. Review and approval of the questionnaire was obtained by Greg Ekbom, the research advisor and chair. Bethel University Human Subjects Review, level 3, permission was granted (See Appendix D) prior to the collection of any data.

Participant Study Flow

This section summarizes the flow of participation, data collection, and data analysis.

1. Subject met inclusion criteria:
    a. Hmong ethnicity
    b. Age was 18 years old or older
2. Informed consent was given and explained to the subject
3. Subject confirmed understanding of the informed consent and agreed to participate in the study
4. Subject was assigned a questionnaire in English or Hmong
5. Confirmation of understanding of the questionnaire and instructions by the subject was confirmed
6. Subject completed the questionnaire and completed their participation in the study
7. Data was entered into a Microsoft Excel spreadsheet for analysis

Data Analysis

After the collection of the questionnaires, the responses were summarized using Microsoft Excel. The analysis was carried out by the author of this study under the supervision of a faculty member. The analysis consisted of calculating counts and percentages to identify the prevalence of Hmong medicine usage among the participants. Furthermore, comparisons between patient demographics and medicinal practices were made using chi-squared tests to identify any trends or correlations. After the data analysis was completed, the compiled data spreadsheets and completed questionnaires were securely stored with faculty at Bethel University.

Validity and Reliability

The questionnaire used in this pilot study was created by the author of this study. Validity of the questionnaire was reviewed by the research advisor/chair. The questions

were assessed for clarity and appropriateness. Reliability was addressed by asking similar question multiple times to evaluate the same response. The translated questionnaire was reviewed by two Hmong language specialists, Der Yang and Kua Vang, to assess for clarity, validity, and appropriateness of the questions.

Limitations

The following are limitations the researcher believes are present in this study.

1. The briefness of the questionnaire might not provide the best measurement of the subjects' responses.
2. In-person questionnaires may introduce an interviewer bias; the participants may be reluctant to answer truthfully or answering at all.
3. The participant group is not representative of the general Hmong population in Saint Paul, Minnesota. The subjects are customers of the Hmong markets; this may introduce a bias since these participants might have a higher inclination to purchase Hmong medications.
4. The process of convenience sampling may result in sampling error.
5. Language and illiteracy may introduce confusion when answering the questionnaires. These participants may require spoken instructions which may introduce inconsistencies between participant answers.

CHAPTER 4: Results and Data Analysis

Introduction

The purpose of this study was to determine the prevalence of Hmong medicine usage among the Hmong community in Saint Paul, Minnesota. To get a better sense of the participants' medical practices and preferences towards Hmong medicine, the prevalence of Hmong medicine purchases was also explored. Moreover, demographical questions were also collected to explore any relationships between Hmong medicine usage/purchase and various socio-cultural characteristics such as gender, age, country of birth, Western medicine utilization, household demographics, primary language, and religion. The process of data collection and analysis are discussed in this chapter.

Techniques of Data Analysis

In order to determine the prevalence of Hmong medicine usage among the Hmong community in Saint Paul, Minnesota, data was collected using an original paper-based survey. Surveys were distributed in-person by convenience sampling at one of Saint Paul's Hmong markets over three days. Participants were prompted at random by the primary researcher to take the survey. The surveys were distributed and collected by the primary researcher. An informed consent was provided to the participants with each survey to explain the extent and purpose of the study. Signatures and permission to distribute the survey tool at the Hmong market was obtained by the market's manager prior to distribution (See Appendix A).

Data was excluded from analysis based upon the following criteria: 1) subjects failed to answer all questions, and 2) subjects answered questions in a fashion that was deemed unclear to the researcher (i.e. marking multiple answers per question). The data

that passed the exclusion criteria was entered into Microsoft Excel 2007 for summarization and calculations. The study was intended to be a pilot study to observe general trends in Hmong medicine usage; however, Chi-square comparison test for statistical significance was used to compare and evaluate several socio-cultural characteristics with Hmong medicine usage.

Demographics

After the inclusion and exclusion criteria were applied, the total number of completed surveys was 54. A total of eight questionnaires were excluded based off the exclusion criteria. Of those who completed the surveys, 28 participants (51.9%) were male and 26 participants (48.1%) were female. Twenty-one participants (38.9%) were between the ages of 18-30; thirteen participants (24.1%) were between the ages of 31-40; six participants (11.1%) were between the ages of 41-50; ten participants (18.5%) were between the ages of 51-60; and four participants (7.4%) were between the ages of 61-70. Thirty-four participants (63.0%) reported not being born in the USA. Eighteen participants (33.3%) reported English as their primary language, while 34 participants (63.0%) reported Hmong, and two participants (3.7%) reported a different language. Thirty-three participants (61.1%) reported their religious preference as shamanism, nineteen participants (35.2%) reported Christianity; and two participants (3.7%) reported "other". Forty-three participants (79.6%) reported living in a household with persons over the age of 50 years old. Thirty-seven participants (59.3%) reported living in a household with persons who use Hmong medicine. Thirty-two participants (61.5%) participants either reported having received prescriptions from a Western doctor or visiting a clinic/hospital within the past 2 years. When asking about medical preferences,

twenty-eight participants (51.9%) would prefer using Western medicine when sick, twenty-five participants (46.3%) would prefer using both Hmong and Western Medicine, and one participant (1.9%) would prefer using Hmong medicine (See Table 1).

Table 1

Demographical information of the 54 total participants

	No.	Percentage			No.	Percentage
Gender:				**Households with person(s) > 50yo**		
Male	28	51.9%		Yes	43	79.6%
Female	26	48.1%		No	11	21.4%
Age:				**Households with person(s) who uses Hmong Medicine**		
18-30 yo	21	38.9%				
31-40 yo	13	24.1%				
41-50 yo	6	11.1%				
51-60 yo	10	18.5%		Yes	37	68.5%
61-70 yo	4	7.4%		No	17	32.5%
Country of Birth:				**Utilized Western Medical Services**		
USA	20	37.0%				
Other	34	63.0%				
				Yes	32	59.3%
				No	22	41.7%
Primary Language:				**Medical Preferences**		
English	18	33.3%		Western	28	51.9%
Hmong	34	63.0%		Hmong	1	1.9%
Other	2	3.7%		Both	25	46.2%
Religious Preference:						
Christianity	19	35.2%				
Shamanism	33	61.1%				
Other	2	3.7%				

Of the 54 participants, 28 participants (52.0%) reported that they had used Hmong medicine within the past 2 years and 16 participants (29.6%) reported that they had purchased Hmong medicine within the past 2 years.

Looking into the demographics of the 28 participants who had used Hmong medicine within the past 2 years; sixteen participants were females and twelve participants were males. Seven participants were between the ages of 18-30; eight participants were between the ages of 31-40; four participants were between the ages of 41-50; five participants were between the ages of 51-60, and four participants were between the ages of 61-70. Twenty-four participants reported not being born in the USA. Twenty-one participants reported their primary language was Hmong, five participants reported English, and two participants reported a different language. Twenty participants reported their religious preference was shamanism, seven participants reported Christianity, and one participant reported "other". Twenty-four participants reported living in a household with a person over the age of 50. All 28 participants in this group reported living in a household with persons who used Hmong medicine. Twenty participants reported utilization of Western Medicine within the past 2 years. The medical preferences in this group showed that seven participants preferred Western Medicine, one participant preferred Hmong Medicine, and 20 participants preferred both (See Table 2).

Table 2

Demographics of the 28 Participants who Used Hmong Medicine within the Past 2 Years

	No.	Percentage			No.	Percentage
Gender:				**Household with person(s) > 50yo**		
Male	12	43.0%		Yes	24	55.8%
Female	16	61.5%		No	4	36.4%
Age:				**Household with person who uses Hmong Medicine**		
18-30 yo	7	33.3%		Yes	28	75.7%
31-40 yo	8	61.5%		No	0	0.0%
41-50 yo	4	66.7%				
51-60 yo	5	50.0%				
61-70 yo	4	100.0%				
Country of Birth:				**Utilized Western Medical Services**		
USA	4	20.0%		Yes	20	62.5%
Other	24	70.6%		No	8	36.4%
Primary Language:				**Medical Preferences**		
English	5	27.8%		Western	7	25.0%
Hmong	21	61.8%		Hmong	1	100.0%
Other	2	100.0%		Both	20	80.0%
Religious Preference:						
Christianity	7	36.8%				
Shamanism	20	60.6%				
Other	1	50%				

Note. Percentages were calculated from the total number of participants in each demographical category.

Looking into the demographics of the 16 participants who had purchased Hmong medicine within the past 2 years; thirteen participants were females and three participants were males. Six participants were between the ages of 31-40 years old, two participants were between the age of 41-50, four participants were between the ages of 51-60 years old, and four participants were between the ages of 61-70 years old. All 16 participants reported not being born in the USA. Fifteen participants reported their primary language was Hmong whereas 1 participant reported English as their primary language. Thirteen

participants reported their religious preference was shamanism whereas three participants reported Christianity. Fourteen participants reported living in a household with a person over the age of 50. All 16 participants in this group reported living in a household with a person who used Hmong medicine. Twelve participants reported utilization of Western medical services within the past 2 years (See Table 3).

Table 3

Demographics of the 16 Participants who Purchased Hmong Medicine within the Past 2 Years

	No	Percentage			No	Percentage
Gender:				**Household with person(s) > 50yo**		
Male	3	10.7%		Yes	14	32.6%
Female	13	50.0%		No	2	18.2%
Age:				**Household with person(s) who uses Hmong Medicine**		
18-30 yo	0	0.0%		Yes	16	43.2%
31-40 yo	6	46.2%		No	0	0.00%
41-50 yo	2	33.3%				
51-60 yo	4	40.0%				
61-70 yo	4	100.0%				
Country of Birth:				**Utilized Western Medical Services**		
USA	0	0.0%		Yes	12	37.5%
Other	16	47.1%		No	4	18.2%
Primary Language:				**Medical Preferences**		
English	1	5.6%		Western	0	0.00%
Hmong	15	44.1%		Hmong	0	0.00%
Other	0	0.0%		Both	16	64.0%
Religious Preference:						
Christianity	3	15.8%				
Shamanism	13	44.1%				
Other	0	0.0%				

Note. Percentages were calculated from the total number of participants in each demographical category.

Hmong Medicine Usage

The main area of focus in this research was to determine the prevalence of Hmong medicine usage among the community. The survey tool asked questions pertaining to the participants' medical practices and preferences. Specifically, participants were asked whether they had bought or used Hmong medicine within the past 2 years. The survey tool also gathered demographical information (i.e. gender, age, country of birth, Western medicine utilization, household demographics, primary language, and religion) which was used to observe trends that may suggest which socio-cultural factors may influence usage of Hmong medicine.

Of the 54 participants, 28 participants (51.9%) answered that they had used Hmong medicine within the past 2 years. Bivariate analysis found that individuals not born in the USA were more likely ($p < 0.05$) to use Hmong medicine compared to those who were born in the USA. Moreover, those who lived in a household with persons who use Hmong medicine were more likely ($p < 0.05$) to also use Hmong medicine. Gender, age, primary language, religion, utilization of Western Medicine, and having a household with an individual over the age of 50 years old had no significant impact ($p > 0.05$) on whether an individual had used Hmong medicine within the past 2 years or not (See Table 4).

Table 4

Calculated P-values for Participants who Used Hmong Medicine in the Past 2 Years

	No.	p-value		No.	p-value
Gender:			**Religious Preference:**		
Male	12		Christianity	7	0.210
Female	16	0.170	Shamanism	20	
			Other	1	
Age:			**Household with person(s) > 50yo**		
< 50 yo	19		Yes	24	0.249
> 50 yo	9	0.280	No	4	
Country of Birth:			**Household with person who uses Hmong Medicine**		
USA	4	< 0.001	Yes	28	< 0.001
Other	24		No	0	
Primary Language:			**Utilized Western Medical Services**		
English	5	0.066	Yes	20	0.059
Hmong	21		No	8	
Other	2				

To get a better sense of the participants' medical practices and preferences towards Hmong medicine, the participants were also asked if they had purchased Hmong medicine. Of the 54 participants, 16 (29.6%) participants answered that they had purchased Hmong medicine within the past 2 years. Bivariate analyses found that women were more likely ($p < 0.05$) to purchase Hmong medicine compared to men. Participants over the age of 50 were also more likely ($p < 0.05$) to purchase Hmong medicine compared to those under the age of 50. It may be notable to add that of the 21 participants from the age group 18-30, 0.0% of them reported purchasing Hmong medicine within the past 2 years, whereas all four participants from the age group 61-70 reported having had

purchased Hmong medicine. Another factor that showed significance ($p < 0.05$) was whether the participants were born in the USA or not. Of the 16 participants who reported purchasing Hmong medicine, all (100%) reported that they were not born within the USA. Moreover, those who spoke primarily Hmong were more likely ($p < 0.05$) to have purchased Hmong medicine compared to those who spoke English or another language. Those who lived in a household with a person who uses Hmong medicine are more likely ($p <0.05$) to purchase Hmong medicine. Religion, utilization of Western Medicine, and having a household with an individual over the age of 50 years old had no significant impact ($p > 0.05$) on whether an individual would have purchased Hmong medicine within the past 2 years (See Table 5).

Table 5

Calculated P-values for Participants who Purchased Hmong Medicine in the Past 2 Years

	No.	p-value			No.	p-value
Gender:				**Religious Preference:**		
Male	3			Christianity	3	0.129
Female	13	0.002		Shamanism	13	
				Other		
Age:				**Household with person(s) > 50yo**		
< 50 yo	8	0.009		Yes	14	0.351
> 50 yo	8			No	2	
Country of Birth:				**Household with person(s) who uses Hmong Medicine**		0.001
USA	0	<0.001		Yes	16	
Other	16			No	0	
Primary Language:				**Utilized Western Medical Services**		
English	1	0.010		Yes	12	0.127
Hmong	15			No	4	
Other	0					

CHAPTER 5: Conclusion

Introduction

The purpose of this study was to determine the prevalence of Hmong medicine usage among the Hmong population group in Saint Paul, Minnesota. In order to explore these questions, a survey was distributed at a St. Paul Hmong market. The remainder of this chapter includes research question results, a discussion of findings, limitation/delimitations of the study, and suggestions for future research.

Research Question Results

The first research question to be answered was: what is the prevalence of non-conventional and folk medicine usage among the Hmong community in St. Paul, Minnesota? The findings of this study showed that the simple majority (52.0%) was found to use Hmong medicine while approximately a third of the participants (29.2%) was found to purchase Hmong medicine.

The second research question to be answered was: what is the relationship between Hmong medicine usage and certain demographical characteristics (i.e. age, gender, country of birth, religion, primary language, and family dynamics)? When observing the data regarding Hmong medicine usage, the socio-cultural characteristics that showed a relation to Hmong medicine usage was the participants' country of birth and whether they lived in a household with someone who used Hmong medicine. Those who reported not being born in the USA were more likely to use Hmong medicine ($p < 0.05$). Similarly, those who reported living in a household with a person who uses Hmong medicine were more likely to use Hmong medicine ($p < 0.05$). Factors such as gender, age, primary language, religion, utilization of Western Medicine, and having a household

with an individual over the age of 50 years old had no significant impact ($p > 0.05$) on Hmong medicine usage.

Looking into the demographics of those who purchased Hmong medicine, several socio-cultural factors seemed to be related to the purchasing of Hmong medicine. First, women were found to be more likely to purchase Hmong medicine when compared to men ($p = 0.002$). Participants over the age of 50 were also more likely ($p < 0.009$) to purchase Hmong medicine compared to those under the age of 50. Participants who were not born in the USA were also more likely to purchase Hmong medicine ($p < 0.001$). Moreover, those who spoke primarily Hmong were more likely ($p = 0.010$) to have purchased Hmong medicine compared to those who spoke English or another language. Demographics such as religion, utilization of Western Medicine, and having a household with an individual over the age of 50 years old had no significant impact ($p > 0.05$) on Hmong medicine purchase.

Discussion of Findings

To date, there have not been studies that explored the prevalence of Hmong medicine usage among the Hmong in Saint Paul, Minnesota. Therefore, the findings of this study were used to get a general idea of how prevalent Hmong medicine usage is among this community as well as observe trends between certain socio-cultural demographics that may or may not be associated with Hmong medicine usage.

The results of this study show that 28 participants (52.0%) reported using Hmong medicine within the past 2 years and 16 participants (29.2%) reported purchasing Hmong medicine within the past 2 years. Based off the past literature reviewed, no data was found that can be compared with these findings.

Factors such as country of birth and living in a household with a person who uses Hmong medicine seemed to influence the likelihood of using Hmong medicine. Based off the past literature reviewed, no quantifiable data was found that can be used to compare with these findings. Although there is no previous data that explores these correlations, one can speculate that those born outside the USA have probably had prior exposure and trust in Hmong medicine. According to Thorburn (2012), some Hmong people maintain trust in Hmong medicine due to familiarity and confidence with Hmong medicine.

Factors such as being female, older than 50 years old, born outside the US, primarily speaking Hmong, and living in a household with persons who use Hmong medicine seemed to influence the likelihood of purchasing Hmong medicine. Although there are not past data to compare with for the majority of these findings, the trend of women being more likely to purchase Hmong medicine is most likely due to the fact that in the Hmong society, women specialized in herbal medicines and are responsible for preparing and prescribing their use (Moua, 1996).

An interesting finding from this study was that the majority (98.1%) of the participants reported preference towards either using Western Medicine alone or in combination of Hmong medicine. This is an important finding because even though the usage of Hmong medicine is prevalent within the community, the usage of Western medicine also appears to be widely accepted. Historically, there has been an abundance of literature that discussed the Hmong's distrust towards Western Medicine due to a variety of factors such as lack of understanding or familiarity with Western Medicine, cultural and traditional factors, negative experiences, etc. (Thorburn, 2012). However, the findings from this study follow trends from other literature that suggests that the Hmong

are open to Western Medicine. The study "Cancer screening, reproductive history, socioeconomic status, and anticipated cancer-related behavior among Hmong adults" illustrates that the majority of participants (82.9%) would seek Western medical doctors if diagnosed with cancer (Yang et al, 2006).

Limitations

Limitations of the study include: having a small sample size, sampling from a biased population by recruiting participants from a Hmong market, interviewer bias from in-person questionnaires, language barriers, and having a brief questionnaire.

One important limitation of the study was the small sample size of participants since it made it difficult to get enough participants for each demographical category. If the sample size had been larger, then hopefully the distribution of demographical groups would be more even. For example, of the total number of participants, 21 participants were between the ages of 18-30 while only four participants were between the ages of 61-70. Based on the data collected from this study, some apparent differences appeared to exist between the two demographical groups (i.e. 0% of the 18-30 group purchased Hmong medicine as opposed to 100% of the 61-70 group). Since the sample size was so small for the 61-70 year old group; the data might be misrepresentative of the total population. Had the sample size been larger for that demographical group, perhaps the study would be more confident with its findings.

Along the same lines, another limitation is that the sampling pool of participants may not be wholly representative of the Hmong community in St. Paul. A bias might have been introduced by recruiting participants from Hmong markets for one of two reasons. One, it can be assumed the participants are shoppers at the markets where

medicine is sold; therefore these participants may (or may not) already have a higher inclination to be shopping for Hmong medicine. Two, the market tended to attract a "younger" population, therefore limiting the ability to collect from a demographically wide population.

Another important limitation to be aware of was the possibility of introducing an interviewer bias by distributing in-person questionnaires. Prior to the distribution of questionnaires, the primary researcher introduced themselves as a student pursuing a career in Western Medicine. Although the affect this had on the participants cannot be measured, it is possible that the participants could have falsified information to please the researcher.

Another limitation was illiteracy and language barriers among several of the participants. Even though questionnaires were written in both Hmong and English, it was observed that many of the older participants were unable to read from both languages. Therefore, instructions and answers had to be translated through dialogue by the researcher. This alone could have caused variation and inconsistencies from survey to survey and could have added to the interviewer bias as well. Even though the researcher mainly used dialogue to read the survey tool word-for-word, it is unclear to know the effects it had towards the data in comparison to those who completed the survey on their own.

The final limitation to the study is the briefness and simplicity of the survey tool. As a pilot study, the main goal of the questionnaire was designed to get a quick yes or no response to see how prevalent Hmong medicine usage was within the community; however there were not any follow-up questions to probe the participants why they

answered the way that they did. Had the survey been a bit more extensive, a better understanding of Hmong medicine usage among the Hmong community could have been achieved.

Suggestions for Future Research

The first suggestion for future research would be to obtain a larger sample size. As already stated in the limitations, a larger sample size may assist in gathering enough data for each demographical category. Perhaps with a larger group, a more accurate representation of the whole Hmong community in St. Paul, Minnesota could be achieved.

Another suggestion for future research would be to gather participants from multiple locations outside of the Hmong markets. For the purposes of this study, the Hmong market was great for its convenience however the demographics of the surveying population might not have been truly representative of the Hmong community as stated above in the limitations. By sampling outside of the Hmong markets, the study could minimize any bias created from participants being Hmong market shoppers.

The last suggestion for future studies would be to maintain consistency between the distributions of the survey tool as well as expand on the survey tool. It was noted that both written and spoken instructions had to be used to distribute the survey which could have introduced some variation or biases to the data. To eliminate this variation, perhaps the study can be performed with an interview-based survey. Not only would this minimize the inconsistencies between survey tools, but it would allow for a more in-depth questionnaire. With interviews, follow-up questions can be asked to better determine why a participant uses (or does not use) Hmong Medicine. Furthermore, it would be interesting to explore more demographical questions that may influence an

individual's decision to utilize Hmong medicine. Such demographical questions may include: education level, income, years in the US, etc.

Conclusion

This research project was aimed to determine the prevalence of Hmong medicine usage among the Hmong community in St. Paul, Minnesota as well as evaluating the relationship between certain socio-cultural demographics with Hmong medicine usage. To evaluate the prevalence of Hmong medicine usage, a questionnaire was used that asked specifically about Hmong medicine usage and purchases within the past 2 years. The survey tool also collected participant demographics such as gender, age, country of birth, Western medicine utilization, household demographics, primary language, and religion. Using a chi-squared test, these demographics were compared with the participants' responses to Hmong medicine usage to assess if any relationships exist.

After the data analysis, the usage of Hmong medicine among the Hmong community in St. Paul, Minnesota was found to be prevalent. Based on the results of this study, the majority of participants (52.0%) reported using Hmong medicine within the past two years. Furthermore, the demographical groups most likely to use Hmong medicine included: persons who were born outside of the USA and those who lived in a household with someone who uses Hmong medicine. A lesser amount of participants reported purchasing Hmong medicine (29.6%) compared to users. Demographical groups that were more likely to purchase Hmong medicine included: females, those older than 50 years old, those born outside the US, those who spoke primarily Hmong, and those who live in a household with persons who uses Hmong medicine.

The information from this study brings significance to the Hmong and medical communities because it brings attention to the medical practices and tendencies of the Hmong communities in St. Paul, Minnesota and can possibly be extended to other Hmong communities throughout the US. Furthermore, this study brings attention to the demographical groups that are most likely to either use or purchase Hmong medicine. By knowing the prevalence of Hmong medicine usage and the likely demographical groups, one can use this information to elicit the need for healthcare awareness or literacy among the community. Furthermore, this study provides healthcare professions with a better understanding of the medical tendencies of the Hmong patients.

Due to the lack of research in this area, this study served as a starting point into understanding the issue of Hmong medicine usage. As the Hmong community in America continues to evolve and assimilate into American culture, further exploration of the Hmong's medical practices and usage of Hmong medicine would be interesting to study as future generations move forward in time. From this study, one of the most significant demographical indicators of Hmong medicine usage and purchase was whether the participant was born within the USA or not. As mentioned, those who were born outside the USA were more likely to both use and purchase Hmong medicine. As future generations are being born in the USA, it would be interesting to see how the prevalence of Hmong medicine usage also changes. A study noted that longer durations of residence in the USA were positively associated with usage of Western Medical services like cancer screening utilization in immigrant populations (Lee & Vang, 2010). Although one cannot speculate how duration of residence would affect Hmong medicine

usage, it would be interesting to see how future generations will change in terms of their medical preferences and practices.

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APPENDIX A

SITE PERMISSION FORM

SITE PERMISSION FORM

By signing this form, I am agreeing to allow Matthew Vang to distribute questionnaires at this site. I understand this research is a requirement as a graduate student at Bethel University's PA Program. I understand the purpose of the study is to observe the prevalence of Hmong medicine usage within the Hmong community in St. Paul, Minnesota. I understand that this site and all participants will remain unnamed for the study to protect confidentiality of the site owners and participants.

Signature

5/27/15

Date

APPENDIX B

QUESTIONNAIRE

QUESTIONNAIRE

(English)

In the past 2 years...

1. What have you bought from Hmong markets?

Clothes | Food | Groceries | Medicine | Electronics |

2. Have you received any <u>prescriptions</u> from a doctor? Yes No

3. Have you visited a clinic/hospital for medicine? Yes No

4. Have you bought Hmong Medicine? Yes No

5. Have you used Hmong Medicine? Yes No

6. Has anyone in your household used Hmong medicine? Yes No

7. If sick, which would you prefer to use as treatment:

Hmong Medicine // Western Medicine // Both

8. Circle your Age Range: | 18 - 20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71+

9. In your house, how many people are over 50 years old? _____

10. In your house, how many people are under 50 years old? _____

11. Circle your gender: Male Female

12. Were you born in the USA? Yes No

13. What language do you primarily speak at home?

English Hmong Other

14. What is your religious preference:

Christianity Shamanism Other

LUS NOOG NTSUAM XYUAS

(Hmoob)

Tau 2 xyoos dhau los no...

1. **Koj puas tau yuav dabtsis hauv lub kws no?**
   a. Khawb ncaws b. Zaub mov c. Tshuaj d. Khoom noj
   e. Lwm yam
2. **Kws tshuaj puas tau sau tshuaj rau koj noj?**
   a. Tau b. Tsis Tau
3. **Koj puas tau mus cuag kws khob mob li?**
   a. Mus b. Tsis mus
4. **Koj puas tau yuav tshuaj Hmoob li?**
   a. Yuav b. Tsis Yuav
5. **Koj puas tau siv tshuaj Hmoob li?**
   a. Siv b. Tsis siv
6. **Hauv koj tsev neeg, nej puas muaj tus siv tshuaj Hmoob li?**
   a. Muaj b. Tsis muaj
7. **Yog muaj mob, koj nyiam siv yam tshuaj twg?**
   a. Tshuaj Hmoob b. Tshuaj Asmisliscas c. Ob yam
8. **Koj hnub nyug muaj li cas lawm?**
   a. 18-20 b. 21-30 c. 31-40 d. 41-50 e. 50-60
   f. 61-70 g. 71+
9. **Nyob hau koj tsev neeg, muaj tsawg leej neeg tshaj 50 xyoo?** _____
10. **Nyob hau koj tsev neeg, muaj tsawg leej neeg tsis tau muaj 50 xyoo** _____
11. **Koj yog...**
    a. Txiv neej b. Poj Niam
12. **Puas yog koj yug nyob teb chaws no (USA)?**
    a. Yog b. Tsis yog
13. **Nyob tom tsev, koj hais yam lus twg ntau xwb?**
    a. Lus Aaskiv/Miskas b. Lus Hmoob c. Lwm yam lus
14. **Koj coj yam kev ntseeg dab tsi?**
    a. Kevcai ntuj b. Coj Hmoob kevcai c. lwm yam

APPENDIX C

INFORMED CONSENT

INFORMED CONSENT

You are invited to participate in a study examining the prevalence of Hmong medicine usage among the Hmong in St. Paul, Minnesota. This study is part of a requirement as a graduate student at Bethel University's PA Program. I am hoping to observe trends and learn about the medical practices of the Hmong community. You were selected at random as a possible participant in this study based on you being Hmong and over the age of 18. Your participation is completely voluntary.

If you decide to participate, I will be giving you a questionnaire to f ill out regarding your medical practices and demographics. There are 14 questions that should only take 5-10 minutes to complete. No information will be gathered that can be used to identify you; this includes your name, age, address, phone number, birth date, occupation, etc. Any information collected from this study will be kept confidential and will be disclosed only with your permission. Your answers on the questionnaire will not be reported in a way that can be used to identify you. You may withdraw from participation at any time if you do not feel comfortable answering the questions or for any other reason.

This research project has been approved by my research advisor in accordance with Bethel's Level of Review for Research with Humans. If you have any questions about the research and/or research participant's rights, please call Dr. Greg Ekbom at 651-635-8044.

By completing and returning the survey, you are granting consent to participate in this research.

Daim ntawv qhia thiab txaus siab ua

Thov koj pab koom tes rau txoj kev kawm thiaj ntsuam xyuav txog kev siv tshuaj Hmoob ntawm peb tsoom hmoob nyob lub zos Saint Paul, xeev Minnesota no.

Txoj kev tshuaj ntsuam no yog ib feem ntawm kuv txoj kev kawm ua kws kho mob nyob hauv Bethel University. Kuv xav tshuaj xyuas saib tus lw ntawm peb Hmoob kev siv tshuaj mus lis cas. Thov koj pab koom tes yog koj muaj tshaj 18 xyoo lawm.

Yog koj txaus siab pab, thov koj teb 14 nqe lus nram qab no txog koj kev siv tshuaj hauv koj tsev neeg thiab koj tej tsheeb ze. Txhua yam tsav ua koj teb thiab qhia yuav ceev zoo tseg, yuav tsis pub lawm tus paub tias koj yog leeg twg li. Tej kev kawm no yuav ntos tawm los, tabsis yuav tsis muaj tus paub txog tias leej twg yog tus hais.

Koj teb lis koj paub xwb los tau. Cov nqee lus hnug tshuaj ntsuam no, xub mus hla kuv cov xibfwb tom Bethel University ua ntej coj los siv. Yog koj muaj lus nug, hu tau rau tus xibfwb Dr. Greg Ekbom. Xov tooj yog 651-635-8040.

Yog koj teb meej lawm, thov muab rau kuv, ua tsaug ntau.

Txam Vang

APPENDIX D

BETHEL'S IRB – LEVEL 3 APPROVAL LETTER

June 11, 2015

Mr. Vang;

As granted by the Bethel University Human Subjects committee as the program director, I write this letter to you in approval of Level 3 Bethel IRB of your project entitled: "Prevalence of non-conventional and folk medicine usage among Hmong in St. Paul, Minnesota." This approval is good for one year from today's date. You may proceed with data collection and analysis. Please let me know if you have any questions."

Sincerely;

Wallace Boeve, EdD, PA-C

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