Exploring Ways of Knowing: Teaching the Skill of Health Literacy to Refugee and Immigrant Women

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Refugees and immigrants have adverse health outcomes after arriving in the United States. These negative outcomes tend to be disproportionate to those of the general population, regardless of the person's health status upon entry to the country. Research has shown that strong health literacy skills can improve health outcomes in this group. This article reports the results of a pilot in which Library and Information Science Master's students deliver health literacy training to refugee and immigrant women. This training was created in consultation with experts and community partners. The participants were pre- and post-tested with the Short Test of Functional Health Literacy for Adults (STOFHLA) to assess the efficacy of this intervention. Following the completion of the course, the participants were interviewed and asked for comprehensive feedback on the relevance and helpfulness of the program to satisfy their health-related information needs. Their feedback was substantial and will be the basis of a future iteration of this pilot. The pre- and post-test scores of the group showed a statistically significant improvement, providing evidence that the course was effective in raising STOFHLA scores. This article provides insight into providing health literacy instruction for a highly vulnerable group that may be invaluable to library and information science professionals. The purpose of this work is to create a replicable curriculum targeting immigrant and refugee women to be delivered at libraries—and a program in which LIS students can get involved to prepare for dynamic community engagement.

Keywords: community-based participatory research, health literacy, immigrant women, refugee women

It is difficult to imagine the challenges facing a newly arrived immigrant or refugee to the United States. In addition to the burdens of coping with finding housing, employment, and learning how to engage in basic daily living, the immigrant must also learn to navigate a health-care system that lacks uniformity and clarity. Learning how to obtain care, pay for care, handle insurance, interact with medical professionals, and take medication in a new landscape can be incredibly difficult and may have to be managed while learning a new language (Jacobson, Hund, & Mas, 2016). Competent health literacy, which Jacobson et al. (2016) conceptualize as a set of real-life skills, assists newly arrived people in the procurement of care and subsequently

KEY POINTS:

- A pilot conducted by using community-based participatory research resulted in an effective health-literacy course for refugee and immigrant women.
- Library and information science Master's students that participated in delivering the health literacy course reported that they were newly considering becoming health sciences librarians.
- The program participants stated that they wanted more information on nutrition, child health, CPR and first aid, reading medicine and food labels, affordable clinic options, and mental health.

improves their health outcomes, which is a determinant of whole family health (Lloyd, 2014; Wångdahl, Lytsy, Mårtensson, and Westerling, 2014; Zimmerman, 2017). It is a common occurrence that newly arrived people often have varying levels of proficiency with health literacy (Gele, Pettersen, Torheim, & Kumar, 2016; Lee, Choi, & Lee, 2015).

Most importantly, health literacy is crucial. People coming into the United States under refugee status have a higher risk than the general population for being diagnosed with a negative health outcome such as diabetes, obesity, chronic diseases, and mental health disorders (Im & Rosenberg, 2016; Nelson-Peterman, Toof, Liang, & Grigg-Saito, 2015). An unfortunate side effect of acculturation stress is depression and lessened health-seeking behavior, which is requisite to good health (Maneze et al., 2016). Even when immigrants enter the United States at healthy weights, they experience disproportionate rates of obesity and negative health conditions, as well as an overall deterioration in self-reported health (Commodore-Mensah et al., 2018). Additionally, both immigrants and refugees are more likely than the general population to forgo prenatal care (Kentoffio, Berkowitz, Atlas, Oo, & Percac-Lima, 2016).

In our prior research, refugee women stated a need for dental and nutritional information as priority followed by assistance in obtaining healthcare and getting to see a doctor (Zimmerman & Beam, 2020). The refugee women also cited needs for more information about birth control and child health. These informational needs correspond with some of the most prevalent health issues in this population (Gunnell, Christensen, Jewkes, LeBlanc, & Christofferson, 2015; Luque, Soulen, Davila, & Cartmell, 2018; Teitler, Martinson, & Reichman, 2017; Wilson, Wang, Borrell, Bae, & Stimpson, 2018). Despite an acknowledgment of these health information needs, refugee and immigrant women typically have difficulty navigating the informational landscape. Their problems include consulting only one source, frequently consulting sources that they do not trust, having difficulty understanding information that they do find, and frequently suspending their search without getting the information that they need (Zimmerman, 2017). With many having arrived in the United States with inadequate health literacy and English language skills to maneuver through a complex and inconsistent health-care system, this group is often at a severe disadvantage in being able to care for themselves and their families.

Despite ample and consistent evidence that immigrants and refugees would greatly benefit from improved health literacy skills, this significant issue has not received the attention it deserves. Prior scholarship has documented success in reaching underserved groups through library-based health information outreach programs (Barr-Walker, 2016; Fisher, 2018; Mi, Stefaniak, & Afonso, 2014). This research, supported by information poverty theory (Chatman, 1996), aims to support the health literacy and informational needs of immigrant and refugee families by designing and delivering replicable educational interventions to engage a traditionally underserved community. This study both contributes to the discussion of the role of LIS scholars in creating educational interventions that target the health of underserved populations and implements a pilot program that may be used for further research to benefit such groups. Through this study, the health information needs of immigrant and refugee women will also be further understood.

The subjects of this research and the participants of this study are all immigrants to the United States. Most of them, also, are women who came into the United States under

documented refugee status and entered the country as asylum seekers. A refugee is a person who has fled war, violence, conflict, or persecution and has crossed an international border to find safety in another country (United Nations High Commissioner for Refugees, n.d.). In the United States, an asylum seeker is a person who meets this definition and has been granted admission to the country under asylee status. In order to provide the maximum protection to the participants of this study, they were not asked about their documentation status. However, we interacted with the participants through a refugee services organization, and many of them volunteered their stories of becoming refugees and asylum seekers. Much of the literature cited in this article is specific to immigrants because all refugees are immigrants. Some of the literature is specific to refugees, and we have made every attempt to distinguish the two. When discussing the focal population, both terms "immigrant" and "refugee" are used because the curriculum was created to support the needs of both communities as much as possible and because both immigrants (only) and immigrants that were refugees participated in this project. While these communities are certainly not homogenous, it was the researchers' goal to discern their health information needs as well as possible and create a generalized curriculum to teach health literacy skills in library and information centers to these populations, with the added benefit of providing an opportunity for dynamic community engagement for LIS students.

In addition to the needs and potential benefit to the target population, it is an equal objective of this project to help School of Library and Information Science (SLIS) Master's degree students develop an understanding of how to meet the varied information needs of individuals in a global society and to promote service to disadvantaged populations. As an SLIS professor focused on literacies and traditionally underserved communities, it appears that many SLIS students lack awareness of several of the core aspects of this project. SLIS students have often had little exposure to disadvantaged populations. The SLIS students have limited understanding of how to disseminate information literacy to people of varying abilities. In fact, they are largely unexposed to variances in information needs and abilities.

This project provided a rare opportunity for SLIS students to engage directly with an underserved population. It challenged them to figure out ways to differentiate instruction based on user needs. Most importantly, it afforded the SLIS students a valuable chance to develop an understanding of the unique difficulties and benefits requisite to working with a disadvantaged community.

Health literacy and immigrant women

Newly arrived people can sometimes be at a disadvantage when arriving in the United States due to culture shock and a lack of familiarity, and therefore they have difficulty navigating basic information as it relates to many areas of life, including health (Lloyd, Kennan, Thompson, & Qayyum, 2013). It is important to understand the information-seeking behaviors of these specific populations, and in this specific case, the health information–seeking behaviors, so that refugees and immigrants can become more comfortable within American culture. However, as acknowledged by leading scholars in the field of information science, little is known about the information behavior and needs of refugees (Fisher, 2018). Out of all the information that immigrants need when entering a new country, they specifically prioritize

health and legal information as the most important. Health literacy is so vital because it helps them to achieve basic needs. Additionally, health and legal information has been identified as being the most difficult to find and understand due to the "limited understanding of the social infrastructure—the medical and legal systems—in the host country" (Suh & Hsieh, 2019). Because health literacy is simultaneously viewed as vital and difficult to access and understand, it is important for information scholars to help these disadvantaged populations acquire the proper skills needed to thrive within a new country and culture.

Concerning health literacy among immigrant or refugee women in the United States, a common theme within the already published literature is that of the general lack of knowledge regarding necessary preventative health-care screening. Because most refugees go to the doctor only when they are sick, preventative screening is not common. Also, in some cultures, it is believed that fate can play a role in getting sick (Kue, Hanegan, & Tan, 2017). It is important to recognize and respect the cultural differences that are often found when researching a topic such as health literacy in immigrant and refugee women. In that same vein, it is also important to help improve these women's health literacy in ways that are at the same time effective as well as respectful to varying cultural backgrounds. With this in mind, some researchers choose to ask their subjects how they wish to receive information regarding specific health topics and what dissemination methods would be most culturally appropriate (Allen et al., 2019).

When a lesson plan was being created for a community-based class intending to improve overall health literacy or knowledge on a specific topic, the importance of how information is disseminated was highlighted from a study done on the benefits of implementing and completing an informational class on breast health for a Chinese immigrant population (Lee-Lin, Menon, Leo, & Pedhiwala, 2013). The researchers improved their success in disseminating information after recognizing what type of information sharing was appealing to their audience: "The social aspect of such gatherings, the offering of food, and monetary incentives in a familiar and trusted environment are very attractive to Chinese immigrant women" (p. 367). They also recognized and attempted to alleviate some of the unavoidable language barriers through utilizing colorful and easy-to-understand graphics. Like this study on breast health, much of the literature on health literacy within women of immigrant and refugee communities surrounds the importance of circulating relevant information to these women on topics such as sexual health, preventative screening, and maternal care.

Many studies regarding health literacy in immigrant and refugee communities also stress the importance of community involvement in order for the projects promoting health literacy to be taken seriously by community members. Because many immigrant and refugee beliefs are driven by culture and tradition, it is helpful if medical interventions, especially as they relate to sexual health, are supported by trusted community leaders to ensure cooperation (Kingori et al., 2016). While Kingori et al. (2016) are specifically discussing the necessity of community involvement for HIV prevention within the Somali immigrant and refugee communities, the same sentiment concerning community involvement is relevant for other cultures and health-related topics as well.

Various barriers are also present when discussing access to health care for immigrant and refugee populations. The biggest barriers are reported to be language and communication, as well as lack of trust in the health-care provider (Salman & Resick, 2015). It is

unavoidable that language is a common barrier of access for refugee and immigrant populations regarding all aspects of life, inside and outside of health-related topics. Medical professionals have pointed out that while interpreters are useful, whether professional or family members, they are not always available and at times can be inaccurate when dealing with language variations and medical terminology. Researchers have also brought up the fact that there are "ethical issues around translation quality, confidentiality, safety, as well as resistance to interpreter use" (Hughson et al., 2018, p. 14). The fact that health-care systems are not globally interchangeable is significant, because not only do individuals from immigrant and refugee communities need to be informed on relevant health related information, but they also need to be instructed on how to maneuver the bureaucracy of the health-related field when dealing with necessary evils such as the billing department, insurance claims, and scheduling additional appointments.

Health literacy should not only encompass the actual ailments that an individual experiences but should also include being literate about how the health-care system works structurally and bureaucratically. Generally, in a new culture, refugees and immigrants need both access to essential information and the skills to navigate it (Caidi, Allard, & Quirke, 2010). This is also true of the US health-care system. The Westernized approach to the health-care system may be quite normal for some, but for other individuals such as immigrant or refugee women, the system is foreign, which can be daunting to approach and understand (Mangrio & Sjögren Forss, 2017). The bureaucracy of the health-care system is admittedly difficult to understand, and with all the barriers that are present when discussing disadvantaged populations such as refugee and immigrant women, the system can only become more confusing.

Fear and shame may also be factors when refugee and immigrant women are even thinking of seeking help becoming health literate. Many of these women are immersed in a brand-new culture, which can be terrifying. Many also feel a sense of shame due to lack of a proper education or language skills (Floyd & Sakellariou, 2017). This fear and shame surrounding even the thought of reaching out for help is something to take into consideration when attempting to implement programs looking to improve the health literacy of immigrant and refugee women. While some individuals may seek that help, there is a risk that others may remain silent.

A study done by Hernandez and Organista (2013) cites the possibility of positive implications regarding the implementation of entertainment-education (E-E) for immigrant and refugee women with low health literacy rates: "E–E refers to the placement of educational content within entertainment messages in efforts to increase knowledge and create behavioral and social change" (p. 225). This study specifically looks at inserting information on depression into fotonovelas targeting Latina immigrants. This approach to sharing information regarding health is both engaging to the audience and culturally relevant. While fotonovelas are not universal to immigrant populations, there is the possibility of finding a range of culturally compatible forms of entertainment that could also include informational benefits for a range of distinct cultures seeking to improve their health literacy.

Along the lines of entertainment education, Young, Gomez, and Maxwell (2019) propose workshops and radio programs geared toward teaching health literacy to Mixtec

(i.e., indigenous Mesoamerican) farm workers. Workshops were locally advertised through fliers and announcements, and radio programs were prerecorded and disseminated on the local indigenous radio station. Both programs were made available in Spanish and Mixteco. Because the indigenous population has a long history of oral communication, the radio advertisement had a good response. The results of this study showed great improvement on the part of the targeted individuals with respect to health literacy.

Tsai, Lee, and Yu (2018) outline the benefit of a problem-based learning (PBL) approach to health literacy. PBL is structured in small groups that utilize tutors and questions based on possible real-life experiences: "By working through 'real-life' problem solving, learners are empowered to make choices about their learning needs, develop critical reasoning skills, and learn how to generalize these problems to everyday situations, resulting in the development of lifelong learning skills" (Tsai, Lee, & Yu, 2018, p. 341). The results of this study were inconclusive as to whether PBL improves health literacy, but the researchers do not completely dismiss the merits of PBL.

The health literacy of women and mothers directly affects future generations. In a study done on health literacy of undocumented Mexican immigrant mothers, the researchers found that "mothers with lower health literacy had increased odds of having a child with positive screen for developmental delay" (Hernandez-Mekonnen et al., 2016). The researchers correlated this finding with the known fact of how important early childhood learning is for proper continued development.

Health justice is described as "an ideal in which everyone, regardless of personal factors such as age, gender, gender identity, sexuality, race/ethnicity and income, has the same opportunities to live a long and healthy life" (St. Jean, Jindal, & Liao, 2017, p. 394). In this same study, the authors state that health literacy disparities, including the ability to evaluate health-related information, are a direct factor in the lack of health justice. Cultural differences and lack of access aside, it is easy to see that immigrant and refugee communities, especially women, are in need of health literacy skills. Information access inequities, which is the root of the health literacy disparities that are being discussed in this research, have direct impact on personal and family health (Gibson & Kaplan, 2017). Classes teaching health literacy to the underserved populations of focus would not only reach the individuals in attendance but also their family members, friends, community, and their children. The risks that occur because of a lack of health literacy have the potential to be life threatening, and this is a much-needed service that has the potential to be integral to the overall improvement of society.

Methods

This study employed a convergent parallel mixed methods design in which quantitative and qualitative data were collected throughout the project and later analyzed, with each used to inform the other (Creswell & Clark, 2017). For this study, the quantitative data were in the form of health literacy testing results, and the qualitative data were the result of interviews with the program participants. The following section provides details on how the project was deployed, including the creation of the curriculum, recruitment and training of the students, recruitment of the participants, delivery of the program, and collection and analysis of the data.

Development of the piloted curriculum

In order to create the materials for this pilot, the researchers examined scholarship and other health literacy programs that addressed the needs of underserved populations. They looked at several example projects freely available online to attempt to gauge the content areas that such programs typically covered, and then compared that to their own research on the health literacy needs of this population, and the work of other scholars. To ensure that they were not off base with their conclusions on the most significant content to be covered, they employed a community-based participatory research approach by engaging as many members of the community as they could to contribute expertise (Israel, Schulz, Parker, & Becker, 2008). As a couple of examples, other experts were sought out in the School of Public Health and the School of Education at the University of Iowa, resources from the National Library of Medicine were incorporated, and community stakeholders were consulted—the latter of whom were in alignment with preventing an insider/outsider information poverty conflict (Chatman, 1996). Specifically, women who worked with refugee and immigrant organizations and had immigrated to the United States themselves were asked to provide feedback on the content selection. Once received, the content was further driven by their recommendations.

While the pilot course was taught solely to adult women, health needs relevant to all members of the family were covered in the curriculum. After examining the literature, an eight-topic curriculum was developed to be delivered over five nights. This curriculum included the topical information of parts of the body, making a doctor's appointment, describing ailments and symptoms, taking medicine, reading prescription and non-prescription medical labels, nutrition, reading food labels, medical emergencies, and using the National Library of Medicine's resources such as Medline Plus and HealthReach's multicultural resources. Each lesson was developed at both a basic and lower-intermediate level in order to be potentially flexible to the needs of the participants. The researcher had taught as a certified English as a Foreign Language instructor at introductory levels for years prior and was able to leverage that experience to ensure the language levels were appropriate. Each of the lessons included short overviews and examples to be discussed by the SLIS students, then small group activities and practices to engage the participants with the material and get them speaking. An overview of local sliding-scale clinics was also included in the curricular materials. Once the texts were created, they were professionally translated into Arabic and Spanish.

Student recruitment and training

The researcher put out a solicitation on her school's listserv for Library and Information Science students to assist with the program and received an abundance of applications. She then interviewed and selected students using some guiding criteria. Specifically, she wanted first-year students who would still be in the program and to help in future years of the program if it continued. Students who had demonstrated interest in working with underserved populations and in health librarianship of any kind were especially desired. Finally, students who had instructional experience took precedence. In the end, four LIS Master's students were hired to take part in the project. Each of these students was trained

for several weeks prior to the start of the pilot course to ensure that they were comfortable employing the curriculum and engaging with the content.

Participants, setting, and delivery

The researcher approached a refugee resource group in Iowa City, Iowa, that readily agreed to host the pilot program. The group recruited local women from its current membership. In recruiting the women, the organizational leaders made announcements at events asking if any would be interested in participating in the project. Each of the participants volunteered. They were given translated consent sheets upon entrance into the room on the first night that were then read to them in their language by the project translators. Each of these consent sheets stated that their participation was completely voluntary and could be terminated at any time without penalty, and that the researchers would not be taking any identifying information. Likewise, while the organization was to support refugees and many of the women mentioned their refugee status in class, the research team did not ask about or record anything having to do with immigration status in order to protect any participants that might be undocumented. The participants comprised 12 women from Sudan and a mix of Central American countries. The women ranged in age from 18 to 59. All but three were mothers, most with young children at home. Six of the women were currently married; seven of them worked full time.

The curriculum was designed with the intention of being delivered in a library. However, for this pilot it was more practical to implement it onsite at the refugee resource organization because the women were already present for other events and the organization was willing to provide child care. The twelve women participated in the class for two hours at a time over five evenings.

The participants took the Short Test of Functional Health Literacy for Adults (STOFHLA) prior to the beginning of the first class. Following this assessment, the SLIS students led the class in an introductory exercise and began the course content. Typically, two SLIS students taught the class while two walked around assisting the program participants. Translators for Spanish and Arabic were available, and the program participants that were more proficient with English often assisted those who were not. The researcher sat in the back and took notes on the progress of the class as well as assisting when needed.

Each evening the program participants would bring their book, drop off their children at the playroom, and come into the classroom. Two topics would be taught each evening with a break in between. The topics were all introduced and described by the SLIS students, then the program participants would have the opportunity to ask questions, role-play, and practice. For each topic, the coursebook had supplemental information and resources in the back of the text translated into Arabic and Spanish. At the end of each evening, the program participants were compensated with gift cards to thank them for their participation.

On the last night of the class following the final topic, program participants took the STOFHLA again and then were interviewed in small groups for an hour. At this time, the researcher and SLIS students asked the participants what they thought of the topics that were discussed and what topics they would like to see covered in a future iteration of the pilot. Specifically, they were posed the question of, "what would be most helpful and

relevant to your lives and the lives of your family members?" These responses, as well as the difference in the STOFHLA scores, are discussed in the results section.

Regarding study limitations, this project was a small pilot that explored the health information needs and literacy of 12 immigrant and refugee women in the Midwestern United States. Additionally, the women who participated in the pilot would be considered a convenience sample. The results from this research are not generalizable to the larger population of immigrants in the United States. The women that participated represented two small geographic regions of the world and therefore cannot speak to the needs of immigrants from other geographic regions. While the results of this research and the curricular materials that were generated from the pilot are informative and useful, much more research is needed into the health information needs of immigrants, as well as the methods by which their health literacy can be improved.

Results

In keeping with the mixed methods approach, there are two sets of results for this project that were used to inform each other. The first results are the differences in the pre- and post-test STOFHLA scores of the program participants. The second are the health information needs listed by the participants in the form of topic suggestions for a future iteration of the pilot.

Each program participant was given the STOFHLA at the beginning of the first night and the end of the last. This test was chosen as a simple, previously vetted metric to gauge the health literacy ability of the women. The scores for each program participant were tracked in an Excel spreadsheet. Once all of the scores were entered, a Mann-Whitney U-test was performed to determine if the course was effective. This test did not look at individual scores but instead examined the scores of the class overall. A Mann-Whitney U-test is used to determine if the difference in the means of two groups of numbers are statistically significant (Bridge & Sawilowsky, 1999). These typically are taken from the same sample or population and are compared before and after an intervention. One example of this could be if dieting produced a desired outcome on a group of people. Their weights would be taken before and after the diet to examine if there was statistically significant weight loss for the group. This test was chosen because it is typically the most reliable with smaller sample sizes that may, because of their size, have deviant distributions. Admittedly, one limitation of robust statistical analysis on this sample is the number of participants, though that is the direct result of this being a small pilot. The participants were also a convenience sample requiring a non-parametric test. Because of this, the Mann-Whitney U-test was run to give a general idea of statistical significance and is not the most important metric of the success of the program.

In this case, the pre- and post-test scores were analyzed in Excel to determine if the health literacy course produced a significant increase in scores on the STOFHLA. The pre- and post-test scores were weakly correlated ($r = 0.305$, $p = 0.005$). With the use a Mann-Whitney U-test, it was found that the mean of the second set of scores was significantly improved, $U = 12.5$, $p = 0.0075$, providing evidence that the course was effective in raising STOHFLA scores.

During the interviews with the women, the SLIS students took notes that were later transcribed and coded. The researchers grouped the data and analyzed them for themes through a deductive process in which commonalities were found and ranked according to how often each theme, or topic of interest, occurred. This produced a set of topics that the students were most interested in learning about and those that they had found the most helpful to learn about during the class. These will be discussed below.

Discussion

With respect to the health information needs listed by the women, they found value in many parts of the existing class in addition to wanting information on more topics. Particularly, the women stated that they liked the topics of body parts, nutrition, reading medical labels, and generally any class exercise where they were able to practice speaking and engaging with others in a medical context. The program participants wanted more information on nutrition, child health, CPR and first aid, reading both medicine and food labels, affordable clinic options, and mental health. They also asked in great detail about what to do in medical emergencies. Specifically, they were interested in when to call 911 versus a regular doctor, when to go to the emergency room, and what interaction they may have with the police if they call 911. The program participants also wanted additional information on affordable and sliding-scale clinic options.

In the feedback from the initial pilot, the women's responses were telling as to the needs and concerns of the group as a whole and often corroborated the research cited in the introduction. For example, mental health was the most highly requested addition to the curriculum, which makes sense given concerns regarding acculturation stress (Maneze et al., 2016). The program participants were interested in basic mental health issues, mental health emergencies, mental health medications, and how to obtain mental health care. They mentioned stress and depression as topics of particular interest and mental health issues that mothers and children face. The women were interested in resources for both group and individual therapy.

During the course of the class and as the participants became more comfortable, they asked increasingly difficult questions about their personal risk in dealing with police and medical personnel. They were highly concerned with their own liability if they called an ambulance and the police came in tandem—to the point that several women mentioned that they would hesitate to make such an emergency call. This was interesting, as most of the women were in the United States legally under refugee status. However, it does back up prior research that shows that both documented and undocumented immigrants equally experience acculturation stress related to fear of deportation (Arbona et al., 2010). Further, this is in alignment with the idea that libraries and information professionals are in a privileged position to gain trust with immigrant and refugee populations that other government officials may not be granted as quickly. This is crucial, as it provides LIS professionals an opportunity to work as allies and assist these populations with integration into the United States.

Additionally, hesitance about contacting emergency services could also be caused by cultural differences in regard to attitudes and perceptions of first responders, including a general lack of trust brought on by previous interactions with institutions from their home

countries as well as in the United States (Wu, Sun, & Cao, 2017). Women asked about exactly what could happen if they call 911 and are present when the police arrive. This included what questions they might be asked and how to respond to them. In addition, the participants cited a true discomfort at the thought of having to respond to a medical emergency personally and repeatedly requested a unit on first aid with the potential addition of formal CPR training. They also asked pointed and thoughtful questions about differences between adults' and children's health and assistance in discerning what constitutes an emergency for children that may not be one for adults.

Caring for their children was a top priority. The curriculum that was delivered did not cover children's health as a unit, but the differences in health information as it applied to children were mentioned when they were relevant. For example, when reading medical labels was discussed, several of the examples were children's medication. In the medical emergencies unit, issues specific to children, such as fever in infants, were discussed. However, the participants were nearly unanimous in the requests to have a standalone unit dedicated entirely to infant and child health. In describing their desire to learn first aid, it was primarily in order to assist their children. The participants wanted as much information as possible on health, injuries, and illnesses related to children. Included in this was a desire to better understand processes related to caring for sick children, such as administering medication and taking temperatures. They expressed a need to learn more about child preventative medicine. They also were interested in children's dental health.

Related to their desire to improve the health of their children was a strong focus on nutrition. The participants were highly interested in the basics of nutrition, the food pyramid, reading food labels, and cooking with healthy ingredients. Several interesting ideas were also presented. For example, the participants mentioned that it would have been more helpful to have been invited to bring their own food and medication from home so that they could practice reading labels of items that they used regularly. In addition to a class on nutrition, the participants asked about the possibility of sharing recipes for healthy food from their cultures and possibly collaboratively teaching a cooking class. They also wanted more insight into why certain diets benefit people with specific health needs and how to help family members with common issues such as diabetes and high blood pressure. Related to this, the participants stated a need for information not just on exercise but specifically on ways to stay fit in the winter, when exercising outside is not feasible.

Regarding medications, the participants also stated a need for more resources in their own languages on side effects. They expressed concern that they were uncomfortable reading English inserts for something that they regarded as too serious to misunderstand. They were interested in learning more about the potential side effects of medication, and how to avoid these if possible.

Finally, the participants stated that they really wanted more practice speaking English within a health-related context. Several of the women stated that they felt comfortable listening to English but that speaking was much more difficult. They stated that they felt nervous and uncomfortable speaking with medical professionals and wanted more practice to become more confident. The suggestion from the women was to incorporate as many speaking exercises as possible into the next iteration of the curriculum.

This class was a truly enjoyable experience for everyone involved and resulted in fundamental information to build a helpful, participant-sourced curriculum. Using a community-based participatory approach, which is also done as a measure to combat the mistrust of outsiders requisite to information poverty (Chatman, 1996), the researcher first engaged the community in developing materials and then engaged the participants in evaluating them for the next iteration of the class. This project has been funded for another two years, and the creation of the new curriculum is currently underway. Once it is finished, the researcher will return to the refugee resource group to seek additional feedback from the participants and then repilot the class—this time in a library setting.

All four of the SLIS students who worked on the pilot reported that they were more likely to consider a career in medical or health librarianship. Three of the four SLIS students did not have any sort of instructional experience. Despite this, they did an outstanding job, and all expressed that they were more comfortable delivering instruction than they had anticipated and were more likely to consider a position upon graduation that incorporates instruction. More importantly, they also stated that they felt increased confidence in their preparation and ability to work with underserved populations.

As this project will continue, it provides an excellent opportunity to enhance community engagement opportunities for LIS students. In the short term, the students that will take part in the creation and testing of the curriculum will be uniquely situated to conduct a community engagement project with a traditionally underserved population while creating a usable product for future information professionals. Following the completion of this project, this curriculum, which will be freely available to libraries and community organizations, can be used as a pedagogical tool for students in LIS programs to practice in class or volunteer externally, engaging with health literacy content and underserved populations. In doing so, more LIS students will have the opportunity to develop valuable instructional skills and learn more about the effects of information access on health and well-being.

Conclusion

This project was the first major step in an iterative project that is continuing. Its primary purpose was to create a program that can be delivered, easily and freely, by librarians and other information professionals to improve the health literacy skills of immigrant and refugee women. The secondary purpose was to provide insight into the health information needs of immigrant and refugee women. The third aim was to engage SLIS students in community engagement. In pursuing these goals, this project has been hugely successful. The STOFHLA scores and interview data demonstrated improved health literacy for the participants and increased knowledge of their needs for the researchers. In addition, each program participant stated that they truly enjoyed the class and felt it was a positive experience. Many of them asked if it was possible to participate again. After the course was over, to thank the SLIS students and the researcher, the participants hosted a dinner to which each brought food from their culture to share.

This curriculum presents an opportunity for public libraries to move even further into the forefront of providing safe spaces and information access for highly disadvantaged people in their communities. The first pilot of this class occurred before the current COVID-19 pandemic. The next iteration, during which the curriculum was rewritten based upon the

previous advice from community stakeholders, is well underway but paused. As the project has received continued funding, it will be piloted through rural public libraries when it once again becomes possible. However, while this issue was crucial prior to the current pandemic, the constant influx of difficult-to-discern health information during the late spring and summer of 2020 has brought health literacy needs to a crisis point, as minority communities have proven to be highest risk for contracting and having the most adverse effects of the virus. By engaging in improving the health literacy of immigrants and refugees, information professionals can further LIS service models to promote diversity, equity, and inclusion and improve community health. Leveraging that position of trust that librarians have and can grow within marginalized communities, the current climate mandates that LIS professionals work to serve and improve the lives of their local immigrant and refugee communities. It is hoped that this curriculum will be an inroad to do just that.

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