KANSAS JOURNAL of MEDICINE

Collaborating with Culturally Competent Prenatal Education among Hispanic Communities

Amanda I. Aguila Gonzalez, MPH[1], Martha M. Henao, M.D.[1], Carolyn R. Ahlers-Schmidt, Ph.D.[1,2]
[1]University of Kansas School of Medicine-Wichita, Wichita, KS Department of Pediatrics
[2]Center for Research for Infant Birth and Survival, Wichita, KS

Received June 15, 2021; Accepted for publication Sept. 28, 2021; Published online Jan. 11, 2022
https://doi.org/10.17161/kjm.vol15.15613

ABSTRACT

Introduction. Hispanics represent the largest minority group in the United States. In Kansas, the population of Hispanics has been increasing; unfortunately, their infant mortality rate has increased as well. Baby Talk is a prenatal education program promoting maternal and infant health through risk-reduction strategies and healthy decision-making. The aim of this pilot project was to develop and evaluate a Spanish curriculum for Baby Talk.

Methods. A collaborative partnership between bilingual community members and health professionals from different origins, nationalities, and Spanish dialects was formed to create a culturally and linguistically appropriate Spanish Baby Talk curriculum. This interventional pilot mixed methods research study employed quantitative and qualitative methods to evaluate participant knowledge, intentions, satisfaction, and perceptions of the new curriculum.

Results. Fifteen pregnant women participated in Spanish Baby Talk. Of those, 12 participated in either phone interviews (n = 6) or a focus group (n = 6). All respondents described their experience with the Spanish Baby Talk program as "excellent". Significant increases in knowledge were seen related to topics such as benefits of full-term pregnancy and benefits of breastfeeding. Four themes were identified from the focus group and interviews: 1) lack of accessible community resources; 2) sense of community; 3) Spanish Baby Talk strengths; and 4) areas for improvements.

Conclusions. Findings suggested that the Spanish Baby Talk curriculum was linguistically appropriate and resulted in increases in knowledge and intentions related to health and safety behaviors. Areas for improvement were related to marketing the program and referring to resources that provide material supports (i.e., diapers) to continue the move towards a culturally competent program.

Kans J Med 2022;15:1-7

INTRODUCTION

Hispanics represent the largest minority group in the United States[1] and are expected to increase from 60 million in 2019 to 111 million by 2060.[2,3] Within Hispanic communities, there are many different dialects, cultural practices, and beliefs impacting prenatal and postnatal care. Variations in infant death rates between Central American, South American, Cuban, Puerto Rican, Dominican, and Mexican women are thought to be related to cultural variations between these groups.[4] In Sedgwick County, 15% of the population are Hispanic,[5] with 79% reporting Mexican origin and 67% reporting a language other than English spoken at home.[6] Hispanic infants are nearly twice as likely to die as non-Hispanic white infants in Kansas (infant mortality rates (IMRs) 7.3 and 4.9 deaths per 1,000 live births, respectively). In Sedgwick County, IMRs for Hispanics are higher (8.1) than overall state Hispanic rates.[7]

Making prenatal education available in Spanish and taught by a Spanish-speaking instructor are important steps towards health equity, as cultural and linguistic barriers impact access to care.[8,9] Access to linguistically appropriate educational content may guide parents and caregivers towards evidence-based best practices to care for themselves and their babies. While English-language prenatal education resources existed in Sedgwick County, community partners determined there was an urgent need to offer prenatal education for Spanish-speaking women in their native language which also reflected Hispanic cultural practices, values, and beliefs. In addition, it was critical to recognize the heterogeneity of Hispanic women, including nativity, and develop resources to enhance understanding by offering examples and word options in different dialects as appropriate.

Baby Talk Prenatal Education Program. Baby Talk provides six free, two-hour prenatal education classes[10] promoting maternal and infant health through risk-reduction strategies and healthy decision-making (Table 1). Classes utilize a variety of education formats including lecture, video, demonstration, and hands on activities. Participants who complete all six classes receive an infant health or safety item (i.e., car seat, portable crib). Beginning in November 2015, Baby Talk was offered in English at five locations throughout Sedgwick County. Outcome data suggested significant improvements in knowledge, intentions,[10] and behavior[11] related to self- and infant-care choices.

Table 1. Baby talk curriculum topics.

Session	Title	Key topics*
1	You and your Pregnancy	Importance of early and regular prenatal care, oral health, signs and symptoms of preterm labor, common pregnancy complications, how to communicate with your provider
2	Healthy Pregnancy	Nutrition, physical activity, stress management, tobacco cessation and second-hand smoke exposure, infections and chemical exposures, work safety
3	Labor and Delivery	Benefits of a full-term pregnancy, pain coping strategies, birth plan, skin to skin
4	Feeding your Baby	Breastfeeding and its benefits, community resources for breastfeeding
5	Infant Care	Safe infant sleep, essentials for newborn care, bonding with your baby, vaccination, developmental milestones, school readiness
6	Healthy after Pregnancy	Postpartum depression, birth spacing, physical and emotional changes, healthy habits, postpartum care, healthy relationships

*Some topics, like mental health, are covered in multiple sessions, but only indicated in the primary session on the table.

Community Collaborative. The Spanish Baby Talk Curriculum Development Committee (henceforth referred to as Committee) was a collaborative partnership between bilingual health professionals from Hispanic communities in Sedgwick County, Kansas. Committee members included doctors, nurses, medical translators, college students, and Baby Talk program staff. The Committee goal was to create culturally competent and linguistically appropriate curriculum. This group represented different origins, nationalities, and Spanish dialects from Mexico, Colombia, and Peru.

Due to the success of the English Baby Talk classes, the committee decided to utilize the framework of six 2-hour sessions, the same instruction techniques when an equivalent Spanish version could be employed (e.g., video, handout); and offer the same infant health and safety items. The Committee translated Baby Talk materials to Spanish, offering word options in different dialects as appropriate. The dialect for Mexico, Colombia, Peru, and most of Central and South America is very similar and sometimes referred to as Latin American Spanish, though there are often different words with the same meaning in English. Additionally, Spanish-speakers in the U.S. may have their own didact in which words may be formed from a mix of Spanish and English words and the meaning will depend on the origin.

The original Baby Talk program content was health focused and evidenced-based, therefore, the Committee's primary goals were to ensure material was translated to Spanish and presented in a way that would be perceived positively by participants. The Committee discussed examples provided within the six sessions and how those might be modified to be culturally appropriate. For example, the nutrition and exercise session provided examples of the importance of caloric balance during pregnancy. The English curriculum used cakes and cupcakes as examples but other countries use the words "pastel", "torta", "tarta", or "bizcocho". The curriculum was modified to reflect the traditions and culture of participants better, with additional suggestions included in the instructor facilitation guide to ensure program content was appropriate, respectful, and engaging for Hispanic participants. All translated materials were approved by the Committee for cultural appropriateness.

Conceptual Framework. The development of Spanish Baby Talk classes, materials, and resources was framed around the Health Belief Model[12] and the cultural appropriateness framework.[13] The Health Belief Model considers modifying factors and individuals' beliefs to impact behavior change; these include susceptibility, seriousness, benefits, and barriers to a behavior, cues to action, and self-efficacy. All perceived barriers and strategies for addressing them were reviewed. For example, the Committee considered Hispanic women's perceived threats during pregnancy, such as fear of not being able to communicate with doctors and staff at prenatal appointments, which coincided with literature on racial and ethnic disparities in health care.[14] Another example was lack of knowledge regarding methods of contraception and myths regarding certain methods. Benefits of participating in the program and implementing learned health practices to optimize participant's and baby's health also were addressed. Cues to action for both program participation (e.g., binders, reminder calls) as well as behavior change (e.g., safe sleep door hangers) were assessed for cultural appropriateness when modifying the curriculum.

The cultural appropriateness framework includes five strategies for enhancing cultural appropriateness in health promotion: 1) peripheral, 2) evidential, 3) linguistic, 4) constituent-involving, and 5) sociocultural.[13] Peripheral strategies focus on preparing program and/or materials so they appeal to specific groups, in this case pregnant Hispanic women. Videos and images featuring Hispanic women, infants, and families helped to address this strategy. Evidential strategies focused on perceived relevance of a health issue to a specific group. This was achieved by sharing trends in infant mortality, as well as behaviors that impact pregnancy outcomes. Linguistic strategies centered on ensuring content was linguistically appropriate, beyond a direct translation. To achieve this, the Committee focused on examples and how those would be perceived by different Hispanic communities. Using this information, a facilitator guide was created with talking points and appropriate ways to introduce topics. Constituent-involving strategies centered on drawing from the experiences of members of the priority group.[13] In efforts to achieve cultural appropriateness, the Committee consisted of Baby Talk program staff and Hispanic community members and professionals with lived experiences in perinatal health. Lastly, sociocultural strategies focused on building the cultural values of Hispanic communities and discussing health-related issues within the context of those value systems. For example, family connection is one of the most important values of Hispanic culture.[13] Participants were encouraged to bring family members (i.e., children, husbands, partners, cousins) with them to classes to participate in learning.

Due to the language and content modifications, the aim of this pilot study was to assess the newly developed Spanish Baby Talk curriculum to provide a baseline for program evaluation and improvement.

METHODS

This study was mixed methods research employing quantitative and qualitative methods; the latter of which utilized a thematic analysis methodology. Study procedures were approved by the University of Kansas School of Medicine-Wichita Human Subjects Committee.

Participants. Three cycles of Spanish Baby Talk (July 2017 to June 2018) were conducted at Hunter Health Clinic, a Federally Qualified Health Center (FQHC). Each cycle included six weekly 2-hour sessions taught by a bilingual instructor. Spanish-speaking pregnant women, less than 32 weeks gestational age, and their support persons were invited to attend. Potential participants were referred by clinic case managers or social workers at community events or had contacted the Baby Talk program to see if Spanish classes were available. If a participant missed a session, they were given the opportunity to participate in one of the subsequent cycles. Program consent was obtained prior to the initial session. At the initial session, participants received a 3-ring binder including handouts and resources pertaining to each session topic.[10]

At the conclusion of class cycles, participants were invited to participate in this study. Inclusion criteria were: 1) completion of four or more Spanish Baby Talk sessions, 2) preferred language Spanish, and 3) able to provide informed consent. Study consent was obtained

verbally for those who participated in phone interviews and written consent was obtained prior to focus group participation. Study participants received diapers ($20 value) following participation.

Data Collection

Surveys. Surveys were collected from all participants at three timepoints: 1) prior to the first session (initial survey; 45 questions), 2) after the sixth session (completion survey; 62 questions), and 3) by phone at 6-weeks postpartum (birth outcome; 26 questions). These surveys were translated versions of evaluation tools developed by Kansas Department of Health and Environment to assess Baby Talk and similar programs across the state. Most items were multiple choice, with a few open-ended questions. Due to skip logic, not all participants answered all questions. Participants had the right to refuse to answer any questions.

Initial and completion survey questions included knowledge and intentions regarding modifiable risk factors. On the completion survey, participants were asked to rate their overall experience with Baby Talk on a Likert scale from 1 (excellent) to 4 (poor), comfort level in the classes from 1 (strongly agree) to 5 (strongly disagree), Spanish curriculum difficulty from 1 (very hard) to 5 (very easy), and program value from 1 (not valuable) to 5 (extremely valuable). For instructor feedback, participants were given a list of descriptors such as lively, boring, did not know the topics well, helped me with my problems, and encouraged to ask questions and respondents were asked to select all that described the instructor. Participants were asked if they felt supported by the instructor and by other women attending the class on a scale of 1 (strongly agree) to 5 (strongly disagree). Birth outcome survey questions related to mode of delivery, gestational age, birthweight, breastfeeding, and other infant and self-care behaviors.

Phone Interviews. At the conclusion of the second cycle, brief phone interviews were conducted (January 2018 to April 2018). A trained bilingual research assistant not familiar to participants conducted interviews using a standardized script. The interview consisted of questions relating to motivation to participate in the prenatal education program, Spanish Baby Talk promotional strategies, program strengths, areas for improvement, and concerns regarding access to prenatal care within their community. The interviews lasted approximately 20 minutes.

Focus Group. Based on initial interview responses, program participants who attended the third cycle were invited to a focus group to build a shared understanding of Spanish Baby Talk's strengths and weaknesses. The focus group was held immediately following the final session of the third cycle (June 13, 2018). The focus group offered participants the opportunity to share opinions openly in the security of a group setting and for the facilitator to work toward group consensus. Facilitation and analysis of the focus group followed the standards of Stewart and Shamdasani[15] and Krueger and Casey[16]. The focus group followed a similar script as the phone interviews and was co-facilitated by the research assistant and a bilingual health professional; neither was familiar to the participants. The focus group lasted 30 minutes.

Statistical Analysis. Initial and completion surveys were matched to assess knowledge and behavioral intention changes. Quantitative data were summarized using central tendency and frequency measures using IBM® SPSS Statistics 23.

Focus groups and interviews were audio recorded, transcribed, and translated to English. Qualitative results were analyzed using the Consolidated Criteria for Reporting Qualitative Research Checklist (COREQ).[17] Transcripts were reviewed independently by two coders for common themes. Members of the research team reviewed the transcripts to ensure agreement with initial themes. Disagreements were discussed until group consensus was reached.

RESULTS

Three cycles of Spanish Baby Talk were held with a total of 15 pregnant women. Three participants were excluded from the study; one was unable to provide consent and two could not be reached for interviews. Of the remaining women (n = 12), six completed phone interviews and six participated in the focus group. As such, seven recordings were analyzed.

Demographics. Of the 12 participants, 75.0% (n = 9) were in their second trimester (14 - 27 weeks) at enrollment. Participants averaged 34 years of age (SD = 5 years) and had households of at least four people, with at least two children (33.3%; n = 4) in residence (Table 2). Only 25.0% (n = 3) reported any English proficiency. Most (75.0%; n = 9) were unemployed and uninsured or self-pay.

Survey Results

Knowledge and Intentions. Initial and completion surveys were completed by 91.7% of participants (n = 11; Table 3). On the initial survey, all participants (100.0%; n = 11) correctly identified full-term pregnancy as 39 weeks or more and that infants should sleep in a crib or portable crib. No participants were able to identify the benefits of a full-term pregnancy and only one (8.3%; n = 1) identified benefits of breastfeeding; both variables significantly increased at program completion. In addition, an increase in likelihood to inform other caregivers of safe sleep practices was noted. Participants were provided a list of 10 different potential postpartum symptoms and asked to select all that are considered normal for a mother to experience after delivery. The list included differences in bladder control, night sweats, baby blues for a day or two, and needing to nap; all of which are common symptoms, however, upon completion only two (18.2%) identified all symptoms. Other symptoms included in this list were excessive bleeding, fever, extreme fatigue, non-stop crying, panic for no reason, and lack of interest in your baby which are symptoms of a physical concern or postpartum depression.

Satisfaction. Completion survey results indicated all respondents (100.0%; n = 11) described their Spanish Baby Talk experience as "excellent". All felt a connection to and supported by other pregnant women in the classes and by the instructor. The instructor was described by all (100.0%; n = 11) as lively and knowledgeable. Most respondents indicated all sessions were "very" (54.5%; n = 6) or "extremely" (36.4%; n = 4) helpful; one (9.1%) indicated sessions were "somewhat" helpful. While most (90.9%; n = 10) reported the curriculum as "very easy" (54.5%; n = 6), "easy" (27.3%; n = 3), or "just right" (9.1%; n = 1) to understand, one (9.1%) reported it was "hard" to understand.

Table 2. Patient demographics (n = 12).

Demographics	Participants; n (%)
Household size	
4	4 (33.3)
5	2 (16.7)
6	2 (16.7)
7	2 (16.7)
8	1 (8.3)
Missing	1 (8.3)
Children < 18 years old in the home	
2	4 (33.3)
3	3 (25.0)
4	2 (16.7)
5	1 (8.3)
Missing	2 (16.7)
English proficiency	
Yes	3 (25.0)
No	9 (75.0)
Education level	
< High school	5 (41.7)
High school or GED	5 (41.7)
Vocational certification/license	1 (8.3)
Missing	1 (8.3)
Employment	
Unemployed	9 (75.0)
Occasional/seasonal	1 (8.3)
Missing	2 (16.7)
Insurance	
None/self-pay	9 (75.0)
KanCare/Medicaid	1 (8.3)
Missing	2 (16.7)
Gestation at enrollment	
1st trimester (1 - 13 weeks)	1 (8.3)
2nd trimester (14 - 27 weeks)	9 (75.0)
3rd trimester (28+ weeks)	2 (16.7)
Pregnancy risks	
High risk pregnancy	3 (25.0)
Barriers attending prenatal care	2 (16.7)

Birth Outcomes. Outcomes were collected from 72.7% (n = 8). Three (37.5%) delivered at 39 weeks gestation or after, four (50.0%) delivered between 37 to 38 weeks, and one (12.5%) delivered before 36 weeks due to pregnancy complications. Half (n = 4) were induced due to medical necessity. Six (75.0%) had vaginal deliveries and two (25.0%) had cesarean deliveries, one due to medical complications and one for unknown reasons. All (100%; n = 8) indicated infant birth weight of 5 pounds and 8 ounces or more.

Participants were asked three yes/no questions regarding whether any of the information from the Spanish Baby Talk classes (1) impacted their decision to breastfeed, (2) how long to breastfeed, and (3) their confidence to breastfeed. Six participants (75.0%) indicated Spanish Baby Talk classes impacted all three of these variables. At the time, outcomes were collected, 62.5% (n = 5) were breastfeeding. An additional 25.0% (n = 2) indicated having breastfed their baby in the past though were not breastfeeding currently.

Table 3. Initial and completion knowledge and behaviors (n = 11).

Maternal survey responses	Initial	Completion
Knowledge, n (%)		
Normal postpartum symptoms	1 (9.1)	2 (18.2)
Full-term is 39 weeks or more	11(100.0)	11 (100.0)
Benefits of full-term pregnancy	0 (0.0)	8 (72.7)*
Benefits of breastfeeding	1 (9.1)	8 (72.7)*
Signs of preterm labor	4 (36.4)	6 (54.5)
Resources to support breastfeeding	7 (63.6)	10 (90.9)
Behaviors, n (%)		
Daily prenatal vitamin	7 (63.6)	8 (72.7)
Daily moderate exercise	10 (90.9)	11 (100.0)
Very likely to breastfeed	7 (63.6)	11 (100.0)
Safe sleep, n (%)		
Back positioning	7 (63.6)	10 (90.9)
Crib or portable crib	11 (100.0)	10 (100.0)^
Inform other caregivers	8 (72.7)	11 (100.0)*

* Significant change, $p < 0.05$
^ One participant did not respond this question on the Completion survey.

All participants (100.0%; n = 8) indicated they had attended or planned to attend their postpartum visit, talked to their provider about contraception, and were using or planning to use a contraception method. The most prevalent method was hormonal injection (50.0%; n = 4).

Focus Group and Interview Results

Four themes were identified: 1) lack of accessible community resources, 2) sense of community, 3) program strengths, and 4) areas for improvements (Table 4).

Theme 1: Lack of Accessible Community Resources. Lack of accessible community resources and inability to identify available resources were acknowledged as barriers to optimal pre- and postnatal care. Participants reported struggling to determine what the Sedgwick County community was doing to support pregnant women and their children, especially those who had limited or no English proficiency. In this context, the term community was explained as both the geographic and environmental setting where participants lived, worked, played, and grew. Participants also reported a disconnection from the greater community that made it difficult to learn about existing resources. One participant stated, "In my experience, I have not received any support... right now if I were going through that [postpartum depression], I would not know where to go. I would not know who could help me."

Table 4. Qualitative findings.

Emerging themes	Definition	Quote(s)
Lack of accessible community resources	Language barriers within their communities caused a disconnect that perpetuated the lack of knowledge of available resources for Spanish-speaking women who are pregnant or have recently delivered.	*"The reality is that I do not know what is being done in my community to support women who are pregnant."*
Sense of community through Spanish Baby Talk	Group dynamics as sources of accountability and support.	*"I liked [the classes] a lot; you learn and get to spend time with people."*
Spanish Baby Talk strengths	Program provided a high-quality and safe setting to facilitate learning process.	*"The instructor was nice and helpful... great at explaining everything."*
Areas for improvement	Expansion of marketing and promotional strategies to Hispanic communities.	*"Having a direct line [with a] Spanish representative is important because there are people that get frustrated when they can't understand you."*

All focus group participants (n = 12) indicated limited English proficiency and a major concern was not being able to communicate with others in the community or in health care settings. One participant stated, "No one in my community speaks English". Some participants discussed the inability to vocalize concerns regarding their pregnancy to health professionals because of limited English or discomfort using a translator.

On the positive side, participants described Spanish Baby Talk as, "Helping to begin to break down resource barriers for pregnant women in [their] community". Participants shared that the program provided them with basic knowledge of what community resources were available. Instructors shared resources for insurance determination, provided state insurance applications in Spanish, and made referrals to Spanish-speaking Out-station State Insurance Eligibility Specialists who could help participants complete applications, navigate any questions or concerns, and connect them with other payment programs if not eligible. Additionally, the instructor shared transportation resources available through insurance providers or FQHCs for prenatal appointments for participants who identified transportation as a barrier to seeking care. Information on organizations that provided education and free infant safety items, such as portable cribs, also were shared. Most participants were not familiar with these resources or hesitated to call or ask for resources at appointments due to fear of facing language barriers. Participants expressed feeling confident in their ability to share what they had learned with other women. They also reported plans to promote Spanish Baby Talk to family and friends.

Theme 2: Sense of Community. Participants described the classes as fostering a sense of community and as a safe and inviting place where they could share stories and ask questions. One stated, "I enjoyed it because you learned something and get to share experiences with other women". Another said, "I like how they explained things, the topics that were discussed, and the sense of community that I felt with the people you came to class with". Participants mentioned originally being motivated to come to receive the educational support materials but found further benefit. One mentioned, "I went for the car seat but stayed for the people and the conversation". Participants reported Spanish Baby Talk offered them a safe space to build relationships with other expecting mothers, which created what participants described as a sense of trust and encouraged them to talk more freely about fears, concerns, and frustrations. Sharing stories, conversation, and fostering relationships with other pregnant women were their primary reasons for remaining in class. One participant said, "I really like the program because they inform you, they help clarify doubts and provide a space to express what you're feeling. If you have doubts you would just say it and [Baby Talk] would help resolve them".

Theme 3: Program Strengths. Participants appreciated the opportunity to learn new information even though most were not first-time mothers. One stated, "I have two children...The information that they [Baby Talk] give helps you understand, I don't know how I got through my other pregnancies without knowing this information". Other participants expressed gratitude and appreciation for the opportunity to learn, they shared, "There is a lot of us that do not know a lot of [this] information. I mean our world is different and I come from a ranch where you do not learn about many thing". Another said, "Many times we get pregnant, but we don't learn the precautions we should take while pregnant". A third participant added, "I was really confused about the family planning methods and the program really opened my eyes".

Participants discussed the high quality of the program, from instructors to content. They described instructors as open, willing to answer questions, kind, and knowledgeable about community resources and prenatal health. One stated, "The instructor's behavior was excellent". Another said, "She did not want us to leave with questions". While a third stated, "I think everything was explained and the instructor evoked trust and the material was very complete". Several participants also mentioned completeness of the material and, specifically, that it addressed pregnancy precautions and complications. Other participants described the tangible materials (i.e., handouts and brochures) and information as valuable and stated they felt confident in their ability to share information with other women. Program strengths were viewed as optimizing participants' prenatal care.

Theme 4: Areas for Improvement. Most participants indicated having seen flyers or brochures at clinics for English Baby Talk prior to its availability in Spanish but were not sure what the program entailed because content was in English. In reflecting on why they decided to attend, participants indicated being referred by hospital social workers, community programs, through community baby shower events, or seeing promotional materials. One said, "I would have liked to have learned about the program from the first moment I went to the clinic". Participants reported a greater need for marketing and promotional materials that clearly communicated the purpose of the program. One stated, "The promotion flyer could be interpreted as talking about your baby" and indicated that the direct translation of "Baby Talk" in Spanish may not be the optimal way to engage Spanish speakers, which other

participants echoed. Another shared, "I was too shy to ask someone in the clinic front desk because I didn't want to disturb, and they had other people to attend to". A third stated, "It would be good that this was included in both languages and had a direct contact number for Spanish representative". Participants further reported the need to expand Spanish Baby Talk marketing strategies outside of the clinic to Hispanic communities, especially stores, restaurants, and transit. Finally, participants reported needing essentials like formula, food, clothing, and diapers. As such, they recommend Spanish Baby Talk more directly promote organizations providing such resources.

DISCUSSION

The Spanish Baby Talk curriculum was developed to address a need for pregnancy education and support for Spanish-speaking women. The community collaborative provided a team to translate and review materials to ensure the curriculum would support Hispanic women from various origins. This study assessed the women's responses to the modified materials to evaluate whether they were appropriate for Spanish-speaking communities.

Findings from initial and completion surveys suggested the program curriculum can be translated successfully to educate non-English speaking communities, as evidenced by increases in participants' knowledge regarding benefits of full-term pregnancy and breastfeeding. This also was reflected in the birth outcome survey, where most participants reported breastfeeding or having tried to breastfeed. Positive trends also were seen for other knowledge and behavior variable though statistical significance was not reached.

Birth outcomes related to gestational age and delivery method reflected the high-risk nature of the population served by FQHCs, and the importance of collaboration with such entities. Differences in preterm birth rates for this population have not been explained fully, however, there is evidence that socioeconomic disparities[18] and acculturation[19] play roles. Early enrollment into prenatal education (i.e., first trimester) may allow more time to impact these outcomes.

Feedback from participants addressed program strengths and areas for improvement, as well as community needs regarding prenatal support. One common theme was the importance of addressing language barriers, as these can inhibit prenatal care experiences and likelihood of seeking further care.[8] While no specific needs for language changes were identified within the curriculum, participants highlighted the importance of clearly promoting Spanish Baby Talk and recommended community-based promotion to reach Hispanic women. Some participants were exposed to promotion materials for English Baby Talk, which may have introduced confusion. This informed an opportunity to grow and move towards cultural appropriateness by allowing program staff to review recruitment/engagement strategies and marketing materials to ensure messaging is clear but also relatable for potential participants. Tan and Cho[20] discussed the importance of ensuring health professionals do not assume that translating a message to a group's native language makes it more accessible. It is important to consider differences in customs, values, and belief systems when designing messaging not only for Hispanic communities but all groups. Although the curriculum was reviewed thoroughly to ensure examples and health practices presented in classes were respectful and mindful of cultural values and beliefs, more can be done with marketing and recruitment to enhance appropriateness and continue to move towards competence.

Both completion survey and qualitative findings indicated the instructor as a program strength. Participants highlighted the instructor's ability not only to project themselves as a health professional, but also as a peer to build rapport and promote questions and discussion. More specific instructor screening or training to ensure qualities, values, and characteristics match participants priorities would benefit the program. Another strength of the program was the group format, which allowed participants to build relationships with other Hispanic women in attendance. Participants indicated feeling thankful to be able to share and connect with other women who may face similar struggles. High levels of social support have been found to enhance healthy behaviors during pregnancy for women of Mexican descent.[21] Participants reported they wanted to access the support Baby Talk provided even after baby was born. Bridging the gap between services to be able to refer participants to other programs, especially postnatal support, is essential.

Limitations of this study included small sample size, lack of a control group, single class location, and potential for social desirability response bias. However, results appeared to be consistent across multiple forms of data collection and across three separate cohorts of participants.[22] Although some of the barriers and values shared by participants were generalizable to Hispanic communities, this study had a small sample size. Health educators must not assume all Hispanics are the same and face the same struggles with regards to pre- and postnatal care. Within Hispanic culture, values and beliefs are not necessarily universal. For this reason, when developing public health programs, health campaigns, or materials prioritizing Hispanic communities, it is essential to consider the primary audience, what is known about their culture and subcultures, and how these variables relate to health behaviors.[13] For example, in this study, most participants were unemployed. If women who participated primarily were employed, this could have impacted their flexibility to attend the program or simply yielded a different experience.

Future research should assess behavioral and health outcomes for program participants in comparison with a control group to assess impact on birth outcomes. More research is needed on implementing additional cultural appropriateness strategies to continue the move towards cultural competence. Public health practitioners should consider these findings in the development of programs or resources for women who speak Spanish. Facilitating resource attainment, breaking down language barriers, and developing a network for perinatal support may promote positive birth outcomes.

CONCLUSIONS

There is a dearth of literature regarding perinatal support and outcomes for Spanish-speaking U.S. women. This study began to fill the void by describing the development of a comprehensive prenatal educational program for Spanish-speaking pregnant women. Collaboration with community partners supported the development of a linguistically appropriate curriculum. Spanish prenatal education offered a space for participants to share stories and listen to other perspectives, which facilitated the development of a sense of community. Feedback from participants highlighted the importance of cultural competence, not only in program curriculum, but also in marketing strategies. Results illustrated the importance of the class environment to foster trust and a sense of community for Spanish-speaking pregnant women. Findings helped the program tailor tools and marketing strategies to engage this population better and can serve as a baseline for other community programs in how to move toward cultural competency as they serve diverse groups.

ACKNOWLEDGEMENTS

This study was funded in part by the Kansas Department of Child Health Services Block Grant #B04MC30614 funded by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS). This information or content and conclusions were those of the authors and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS, or the U.S. Government. Informed consent was obtained from all individual participants included in the study. Special thanks to Molly Brown, Luisa Moncada, Ashley Hervey, Fernando Santillan, Luisa Taylor, Terri Doolittle, and Kimberly Cronister for their work on this project.

REFERENCES

[1] Velasco-Mondragon E, Jimenez A, Palladino-Davis AG, Davis D, Escamilla-Cejudo JA. Hispanic health in the USA: A scoping review of the literature. Public Health Rev 2016; 37:31. PMID: 29450072.
[2] U.S. Census Bureau. Hispanic or Latino Origin by Specific Origin. American Community Survey. 2019. https://data.census.gov/cedsci/table?q=hispanic%20&tid=ACSDT1Y2019.B03001&hidePreview=false. Accessed June 17, 2021.
[3] Vespa J, Medina L, Armstrong DM. Demographic Turning Points for the United States: Population Projections for 2020 to 2060. Population Estimates and Projections. February 2020. https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf. Accessed June 17, 2021.
[4] Rice WS, Goldfarb SS, Brisendine AE, Burrows S, Wingate MS. Disparities in infant mortality by race among Hispanic and non-Hispanic infants. Matern Child Health J 2017; 21(7):1581-1588. PMID: 28197819.
[5] U.S. Census Bureau. Population Quick Facts. Sedgwick County, Kansas. 2018. https://www.census.gov/quickfacts/fact/table/sedgwickcountykansas,sedaliacitymissouri,kansascitycitykansas/PST045217. Accessed June 17, 2021.
[6] Pew Research Center. Demographic and Economic Profiles of Hispanics by State and County. Kansas. 2014. https://www.pewresearch.org/hispanic/states/state/ks. Accessed June 17, 2021.
[7] Kansas Health Matters. Infant Mortality Rate. 2019. https://www.kansashealthmatters.org/indicators/index/view?indicatorId=1364&localeId=1026. Accessed June 17, 2021.
[8] Institute of Medicine. Unequal Treatment: What Healthcare Providers Need to Know about Racial and Ethnic Disparities in Health Care. 2002. https://www.nap.edu/resource/10260/disparities_providers.pdf. Accessed June 17, 2021.
[9] Pope C. Addressing limited English proficiency and disparities for Hispanic postpartum women. J Obstet Gynecol Neonatal Nurs 2005; 34(4):512-520. PMID: 16020421.
[10] Ahlers-Schmidt CR, Brown M, Engel M, et al. Baby Talk: Pilot testing a community collaborative prenatal education program to support low income women. J Pediatr Mother Care 2017; 2(2):113.
[11] Ahlers-Schmidt CR, Okut H, Dowling J. Impact of prenatal education on breastfeeding initiation among low-income women. Am J Health Promot 2020; 34(8):919-922. PMID: 32406242.
[12] Champion VL, Sugg Skinner C. The Health Belief Model. In: Glanz K, Rimer BK, Viswanath K, ed. Health Behavior and Health Education: Theory, Research, and Practice. San Francisco: Jossey-Bass, 2008. ISBN: 0787996149.
[13] Kreuter MW, Lukwago SN, Bucholtz RD, Clark EM, Sanders-Thompson V. Achieving cultural appropriateness in health promotion programs: Targeted and tailored approaches. Health Educ Behav 2003; 30(2):133-146. PMID: 12693519.
[14] Manuel JI. Racial/ethnic and gender disparities in health care use and access. Health Ser Res 2018; 53(3):1407-1429. PMID: 28480588.
[15] Stewart DW, Shamdasani PN. Focus Groups: Theory and Practice. Newbury Park, CA: Sage Publications, 1990. ISBN: 9781452270982.
[16] Krueger RA., Casey MA. Focus Groups: A Practical Guide for Applied Research. Thousand Oaks, CA: Sage Publications, 2000. ISBN: 0761920706.
[17] Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. Int J Qual Health Care 2007; 19(6):349-357. PMID: 17872937.
[18] Masi CM, Hawkley LC, Piotrowski ZH, Pickett KE. Neighborhood economic disadvantage, violent crime, group density, and pregnancy outcomes in a diverse, urban population. Soc Sci Med 2007; 65(12):2440-2457. PMID: 17765371.
[19] Reagan PB, Salsberry PJ. Race and ethnic differences in determinants of preterm birth in the USA: Broadening the social context. Soc Sci Med 2005; 60(10):2217-2228. PMID: 15748670.
[20] Tan NQP, Cho H. Cultural appropriateness in health communication: A review and a revised framework. J Health Commun 2019; 24(5):492-402. PMID: 31132946.
[21] Harley K, Eskenazi B. Time in the United States, social support and health behaviors during pregnancy among women of Mexican descent. Soc Sci Med 2006; 62(12):3048-3061. PMID: 16403596.
[22] Patton MQ. Enhancing the quality and credibility of qualitative analysis. Health Serv Res 1999; 34(5 Pt 2):1189-1208. PMID: 10591279.

Keywords: Hispanic, prenatal education, breastfeeding, pregnancy