Baby Talk: Developing a Community Collaborative Prenatal Education Program to Support Low-Income Pregnant Women

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Abstract

In Sedgwick County, Kansas, a collaborative was established to enhance the community’s capacity to promote healthy birth outcomes using consistent prenatal education combined with clinical care at locations serving women at high-risk for adverse fetal/infant outcomes. A new program, Baby Talk, was implemented at five clinics. During the first cycle, 35 women were enrolled and 89% completed the program. Improvements were noted in participant knowledge surrounding breastfeeding, interpregnancy interval, safe sleep, and signs of preterm labor. Birth outcome surveys revealed that there were no early elective deliveries and that 45% had started some form of long-acting contraception.

Keywords: Infant mortality; Health promotion; Prenatal education; Community collaborative; Program development

Introduction

With an infant mortality rate (IMR) of 7.2/1,000 live births; Sedgwick County, Kansas rates are consistently higher than State and US rates [1]. The rate for non-Hispanic Black infants is more than double the overall county rate (16.8/1,000 live births). Spanning nearly 1,000 square miles with a population exceeding 500,000 people, Sedgwick County’s size makes it difficult to implement interventions which impact rates at the county level.

Local projects have been undertaken to address key drivers of infant mortality including breast feeding promotion programs, a prenatal home visitation program, and safe sleep initiatives in hospitals, outpatient clinics and community settings [2–5]. In addition, a Fetal Infant Mortality Review (FIMR) team was established to evaluate local cases of stillbirth and infant death. The FIMR case review team provides recommendations related to community resources and systems to address infant mortality [6,7].

In order to capitalize on existing initiatives and drive collaborative capacity, the Medical Society of Sedgwick County and the Kansas Infant Death and SIDS Network created a Maternal Infant Health Coalition (MIHC) in 2010. MIHC members are volunteers from local universities, a regional medical school, both birthing hospital systems, and the local health department.

On February 13th, 2015, the MIHC hosted a daylong summit with the intention of creating a clear action plan to improve IMR. Attendees (n = 30) included key community leaders, MIHC members, managed care organizations, and local maternal/child health organizations. Presentations were given by a national expert, the state health department director of Maternal and Child Health and consultants from City MatCH, a national membership organization of urban maternal and child health programs. Summit participants critically reviewed local data, community assets and service gaps impacting infant mortality. Based on key drivers, summit attendees agreed to work on four local priorities: addressing social determinants of health, preventing pre-term births, reducing maternal smoking and promoting adequate interpregnancy intervals.

A subgroup of participants, including obstetric, family medicine and paediatric providers, as well as community program representatives, concluded that enhanced prenatal education was needed for low-income mothers. It was recognized that many of these women receive care at multiple clinics and lacked continuity with a provider. City MatCH consultants recommended adopting an evidence-based program addressing the four priorities that could be implemented in tandem with high-quality clinical care. As a result, a collaborative was established to enhance the community’s capacity to promote healthy birth outcomes by delivering consistent prenatal education at clinical sites providing care for women at high-risk of adverse fetal/infant outcomes.

The Baby Talk Program

Five clinics were identified in which to implement the prenatal education program. Four resident clinics, three family medicine and one obstetrical, affiliated with the regional medical school were selected. Half of these clinics were affiliated with a not-for-profit hospital and half were affiliated with a for-profit hospital. The fifth clinic was a federally qualified health center (FQHC) located in the zip code with the highest infant mortality rate. It was believed that embedding the program within these clinics would ensure that both education and clinical care were perceived as integral components of “prenatal care”.

Pregnant women would be encouraged to complete classes within the clinic where they started. Social support and relationship development are key components of the group education setting [8]. However, for women unable to continue within their original cohort, program staff could identify schedules and locations to allow for program completion. Classes were offered at staggered times/days to enhance attendance; sequential attendance was not required. Participants were incentivized to attend classes with small tokens, such as an oral health kit. Completing all six classes was encouraged and those who did so received an infant car seat or portable crib.

Due to the competitive nature of the health systems involved, a neutral fiscal agent was needed. As the MIHC did not have 501(c) 3 designation, the regional medical school was selected to write a grant for Title V Aid-to-Local funds. Funding was received beginning July 2015. Per grant requirements, in-kind contributions were needed to ensure sustainability. Commitments from each clinic included nurse/physician instructor time, classroom space and marketing materials. Additional in-kind support was received for snacks and free or discounted participant incentives.
Curriculum Development

The March of Dimes Becoming a Mom (BaM) curriculum included nine 2-hour classes for use with pregnant women in group settings. The Kansas Chapter of the March of Dimes had been promoting a modified curriculum cycle that restructured BaM into six 2-hour classes [9]. In line with strategies and performance measures identified by the state health department, the Kansas model of coordinated comprehensive care encompasses collaborative capacity building, including private and non-profit program partnerships to support healthy pregnancies through pairing prenatal care and prenatal education.

The modified BaM curriculum was reviewed and determined to address most of the key factors identified during the summit. In addition, the Kansas model had shown previous success in Saline County, Kansas, where following a 4-year implementation, rates of preterm birth (< 37 weeks) and low birth weight (< 2500 g) for program participants were nearly half the state and county rates (Personal Communication, Stephanie Wolf).

However, Saline County is a small rural county that relied on a centralized class taught by a single instructor. The size and population of Sedgwick County would not lend itself to such limited rollout. To maintain fidelity and increase consistency between sites, the program director, in collaboration with the state health department, created lesson plans, PowerPoint presentations and interactive activity instructions for each class. Collaborators felt the title "Becoming a Mom" was limiting and renamed the local initiative “Baby Talk” so as to encourage attendance of spouses, partners and supportive friends or family.

Class materials were accumulated into a single, 3-ring binder given to participants at their first class. Binders included information handouts and brochures developed locally or shared from outside agencies.

Instructor Recruitment

Baby Talk instructors were recruited from within each participating clinic. Few nurses had formal teaching experience, but a majority expressed an interest in teaching. Clinic managers modified schedules to allow nurses the two-hour blocks needed to teach classes. Training on the curriculum was provided for all sites followed by individual coaching. One system utilized a lactation specialist to teach breastfeeding sessions. Several sites supplemented nurse instruction with physicians/residents.

Administrative Support

Three coordinators hired by the regional medical school were each assigned to a system (non-profit hospital clinics, for-profit hospital clinics, FQHC clinic). Each was required to complete orientation for the university and their respective system. Two coordinators were placed five and three weeks prior to the first class; one was placed two days prior. Coordinators presented information on the Baby Talk program to staff and clinical care providers in their systems.

Women were referred to the program by clinical personnel, with coordinators facilitating scheduling and reminder calls for classes. Coordinators collected program data including informed consent, and surveys preceding the first class, after the final class, and – for those completing at least 4 classes – following delivery. The University Human Subjects Committee deemed these activities not human subjects research.

Pilot Testing

A rapid-cycle pilot of the curriculum (6 weekly classes) was conducted in each system before the end of 2015. The two for-profit hospital clinics decided to combine to one location resulting in four complete cycles (24 classes) across the community.

In all, 35 women were enrolled during the pilot. Participant characteristics support that this program was engaging priority populations (Table 1). Thirty-one (89%) completed the program, with thirty completing all six classes. One participant completed five classes. Of the 24 classes held, 19 (79%) had at least one support person in attendance (e.g. infant’s grandmother or father) (Table 1).

Women were given a survey prior to the first class they attended (Table 2). Most were able to identify supine position for safe sleep (74%), use of a crib (82%), and interpregnancy interval greater than 18 months (68%) as optimal; however, no question was uniformly answered correctly. Several items clearly demonstrated concerning lack of knowledge including identification of common postpartum symptoms (e.g. bleeding, depression) and recognition of signs of preterm labor, with < 12% of women able to correctly identify all presented signs/symptoms.

Following the last class attended, women completed another survey evaluating their knowledge and behaviours (Table 2). Women expressed significantly increased knowledge regarding the benefits of breastfeeding, signs of preterm labor, safe sleep, and appropriate interpregnancy intervals (Table 2).

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Age, mean (SD) 25.9 (6.3)</th>
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<tbody>
<tr>
<td>Race/ethnicity, n (%)</td>
<td>Non-Hispanic white 11 (31)</td>
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<tr>
<td></td>
<td>Hispanic 11 (31)</td>
</tr>
<tr>
<td></td>
<td>Non-Hispanic black 8 (23)</td>
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<tr>
<td></td>
<td>Other or more than one race 5 (14)</td>
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<tr>
<td>Education, n (%)</td>
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<td></td>
<td>High school diploma / GED 13 (38)</td>
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<td></td>
<td>Vocational certification/license 3 (9)</td>
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<td></td>
<td>Some college 6 (18)</td>
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<td>Associates degree or greater 4 (12)</td>
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<tr>
<td>Current pregnancy at start of program, n (%)</td>
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<tr>
<td></td>
<td>Second trimester 22 (63)</td>
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<td></td>
<td>Third trimester 11 (31)</td>
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<td>Primiparous, n (%)</td>
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<td>High risk pregnancy 7 (21)</td>
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<td>Smoker at enrollment 4 (12)</td>
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<td></td>
<td>Barriers attending prenatal care 3 (9)</td>
</tr>
</tbody>
</table>

Table 1: Participant characteristics.
Birth outcome information was collected from 29 women who completed the program (94%) a median of 90 days following delivery. There were no early elective deliveries reported; however, 14% were delivered premature due to medical complications. Forty-five percent had started some form of long-acting contraception (intra-uterine device, implant, or injection) to aid birth spacing following delivery.

A convenience sample of 23 women completed a satisfaction survey. Women were most appreciative of information and incentives (each with median rank = 2), information they could take home with them (3), a community of other pregnant women (3), a fun learning environment (4), snacks during the class (5), and free items given throughout the classes (e.g. an oral health kit) (5).

All women agreed with the statements that they learned something and that information was easy to understand. Visual aids, including videos and PowerPoint slides, were identified as helpful. Only one woman would not recommend the class to others. Suggestions from respondents were to offer the class at more times, helpful. Only one woman would not recommend the class to others.

Challenges

Convincing competing institutions to work together continues to be a challenge. Having a neutral partner manage the program and collaborative members who are not affiliated with either health system helps promote open communication and encourages buy-in. It is challenging building support and engagement in large health systems as clinic staff is reassigned or turns over and new relationships need to be developed. In addition, working within resident clinics has the advantage of connecting high-risk patients with the program, but the disadvantage of inconsistent staffing as resident rotations change [10].

Managing logistics across disparate systems has proven difficult. Without central authority to reserve rooms, control calendars for course instructors, and coordinate supply purchases at each site, the coordinators embedded in each system must establish strong relationships with appropriate personnel and identify system-specific processes. Sharing participation and outcome data between systems has required consultation from multiple administrators and legal professionals.

Participant challenges included transportation, child care and speaking a primary language other than English.

Discussion

The purpose of this project was to enhance the community’s capacity to promote healthy birth outcomes by providing consistent prenatal education between clinics serving women at high-risk for adverse fetal/infant outcomes. Stakeholders continue to work together to identify key drivers of infant mortality in the community. Overall, the partners have collaborated to build and support a community prenatal education program. Each also worked within their own systems to embed the coordinator, establish protocols, develop relationships and promote the program. Further, embedding site coordinators into individual systems was essential in establishing relationships and managing logistics. The initial recommendation from summit attendees of having a neutral fiscal agent has been sustained.

Participants exhibited knowledge gain across topics that are pivotal to infant survival. While the women who participated in the program appeared to exhibit risk factors for poor birth outcomes, such as non-white race and low socioeconomic status, relative to the population [11] birth outcomes seem largely positive in our sample. While the rate of prematurity observed in this sample was higher than the county's average [12], the population served by this program exhibits many risk factors for preterm birth [13]. The finding of 45% of our population beginning long-acting contraceptives compares favorably with national rates of 7.2% [14].

Baby Talk participants reported high levels of satisfaction with information, safety item incentives, and participant materials. Many brought support people to classes. A majority of women enrolled were able to successfully complete all six classes.

Work on this program and enrolment is ongoing. By continuing to engage community organizations and our established partners, we have identified gaps (e.g. Spanish language classes) that we are seeking to fill. The results reported here are limited by the restricted timeframe and the protracted nature of pregnancy. However, the results support program logistics in terms of recruitment, retention and ability to collect outcome data. Future evaluation should assess participant knowledge change, behavioural intentions and birth outcomes compared to a cohort matched on demographic variables.

Conclusions

The delivery of prenatal education on a community level requires establishing buy-in regarding the coordinated model of embedded health education in tandem with clinical care. Practitioners, educators, and community members must come together towards a common goal. This work shows the resulting partnership can effectively develop cross-system resources for the betterment of the community as a whole. While this approach was utilized because of the dispersed nature of this program's constituents, the methods are likely applicable to other populations and settings.

Acknowledgement

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Conflict of Interest

The authors declared there is no conflict of interest.

References


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