Review Article
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The impact of an outreach program among a low-income population on postpartum follow up

Abstract

Objective: Outreach programs have been associated with increased patient compliance in other countries. The objective of this study was to evaluate whether an outreach healthcare model using "Promotoras" among a low-income population increased the attendance at the postpartum visit.

Methods: This is a retrospective cohort study of women that received prenatal care at two of our different inner city clinics within our institution Latina Community Health Services (LCHS) and Women and Children Health Services (WCHS) and who delivered at our institution from April to December 2014. LCHS includes "Promotoras" that visit patient's houses during the ante partum and postpartum periods. Our primary outcome was attendance at the 6-week postpartum visit. Secondary outcomes included ≥5 prenatal visits, preterm birth rate, and cesarean delivery.

Results: Seven hundred patients were included (582 WCHS; 118 LCHS). The postpartum visit rate was significantly higher for LCHS compared to WCHS (82.2% vs. 59.3%, $p<0.001$). There was no difference the number of women with ≥5 prenatal visits ($p=0.2$), preterm birth ($p=0.3$), and cesarean delivery ($p=0.3$).

Conclusion: The use of an outreach healthcare model was associated with a significantly higher attendance at the postpartum visit among a low-income population. Future studies should evaluate other beneficial impacts of this model.

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Abbreviations: lchs, latina clinic health services, wchs, children health services

Introduction

Community health care workers are people that choose to improve the health in their community by providing basic health and medical information to its community members. These workers are most often volunteers without prior formal training in health care. The community health care worker model has been shown to be effective in many different settings. This is likely due, in part, to the cultural differences between healthcare providers and people within the communities, thereby allowing community health workers to act as a liaison between these two groups.

Prior studies have evaluated the use of community health care workers in a community outreach program and demonstrate a beneficial impact on health outcomes in low-income populations. These models have been used frequently within women's health. Outside of the USA, community outreach programs are associated with a significantly reduced risk of maternal death.[1,2] Outreach programs have been successful in Nigeria and Nepal, improving the management of postpartum hemorrhage with misoprostol.[3] A study performed in Peru found that community health care workers improved the outcomes of a cervical cancer prevention program.[4]

Within the United States, the community health care worker model has also been utilized and evaluated in obstetrics. Roman et al.[5] showed that Medicaid-eligible pregnant and postpartum patients in Michigan who received home visits by community health care workers reported a higher percentage of psychosocial support and information assistance.[5] Based on these findings from both international and national studies, it is plausible that a community health care worker that is implemented into an outreach program will improve antenatal and postpartum outcomes for low income women in an inner city population within the United States. We therefore implemented the use of "Promotoras," within our Latina population. A Promotora acts as a community health care worker and is a community member who receives specialized training to provide basic health education to the community. This model is used in Latin America and we adopted it into our largely Hispanic clinic in January of 2014.

The objective of this study was to evaluate the effect this "Promotoras" program has on the attendance at the postpartum visit. The postpartum visit (PPV) is a key time for counseling on healthcare maintenance, contraception, and evaluating for possible diagnosis associated with the postpartum period, such as maternal depression. The rates of follow-up are notoriously low in low-income populations.[6] Our hypothesis is that women who have access to "Promotoras" will have a higher attendance at the 6-week postpartum visit than those who do not.

Material and methods

This was a retrospective cohort study of women receiving prenatal care at two inner city clinics at the Pennsylvania Hospital of the University of Pennsylvania: Latina Clinic Health Services (LCHS) or Women and Children Health Services (WCHS).

Both LCHS and WCHS clinics are composed of mostly low-income women including uninsured women and those with public insurance. The LCHS program is comprised mostly of uninsured Hispanic immigrant women and relies on the "Promotoras" program, which was started in January 2014. The "Promotoras" are prior

patients who volunteer to help their community without a monetary incentive. They visit the LCHS patients at home and/or call them on the phone throughout the pregnancy and within the two weeks prior to their postpartum visit. The home visits from the "Promotoras" are performed for the LCHS women that live in the community. If the women do not live in the community or if they cannot reach them, phone calls are performed. The weekly phone calls reviewed the importance of attending their prenatal care and ultrasound appointments, and encouraged follow-up at the postpartum visit.

Women and Children Health Service (WCHS) is a non-profit, independent clinic that provides women's healthcare for those with Medicare or Medical assistance and uninsured American citizens at reduced fees. This practice does not have a community outreach program available; however all of the same obstetrical services are afforded to both the LCHS and WCHS women including access to laboratory testing and ultrasounds. Both LCHS and WCHS are located in the same outpatient facility and are staffed by the same physicians and healthcare providers.

To be included in this study, women had to have started their prenatal care at WCHS or LCHS and delivered at Pennsylvania Hospital. Women were excluded if they had a non-viable pregnancy.

The primary outcome was attendance at the 6-week postpartum visit. Secondary outcomes were: ≥5 prenatal visits, preterm birth rate, and cesarean delivery. Data abstraction was from inpatient and outpatient electronic medical records.

The postpartum show rate prior to the Promotoras program was similar in both clinics (60%). Based on these data, we assumed a postpartum follow-up rate of 60%. The WCHS sees four to five times more patients a year than the LCHS clinic. Therefore, using a ratio of 5:1, 80% power, and a two sided alpha of 0.05, we would need 110 women in the LCHS group and 525 women in the WCHS group to see a 1.25 fold difference in postpartum follow-up rate. It was estimated that it would require 8 months of delivery data to achieve this sample size and therefore we collected data from April to December 2014. We did not want data collection to start prior to April 2014 to allow time for the "Promotoras" to have an impact on perinatal care.

Chi-square and Fisher's exact test were performed for categorical variables, as appropriate. Multivariable logistic regression was used to calculate odds ratio and adjust for confounders, which included diabetes, chronic hypertension, and pregnancy induced hypertension. STATA (version 11.0, College Station, Texas) was used for all statistical analysis. A p-value of <0.05 was required for statistical significance. This study was approved by the IRB of University of Pennsylvania.

Results

There were 3577 women that delivered at our institution from April to December 2014. Of those, 582 met inclusion criteria and received prenatal care at Women and Children health services (WCHS) and 118 met inclusion criteria and received prenatal care at Latina Clinic health services (LCHS), (Figure 1).

Table 1 displays the demographic characteristics for the two study groups. The majority of the women (66.8%) in the WCHS group were African American and the majority in the LCHS group (98%) was Hispanic, p≤0.01.

The overall attendance at the postpartum visit was 63.1%. There was a significant difference in the rate of attendance at the 6-week postpartum visit with LCHS having a higher attendance than MCHW (82.2% vs. 59.3, p<0.001). The odds of attending the postpartum visit was three-times higher for LCHS (OR: 3.17 [1.9 – 5.2]). This held true when adjusting for confounders including chronic hypertension, diabetes, and pregnancy related hypertension (a OR 3.2 [1.9-5.3]). When comparing the attendance at the postpartum visit for LCHS before and after the implementation of the Promotoras, there was also a significant difference noted (82.2% vs. 60.5%, p<0.01). As seen in Table 2, there were no differences in any of our secondary outcomes.

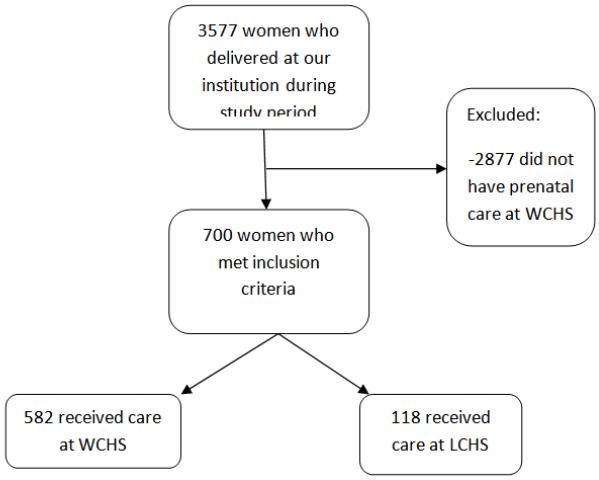

Figure 1: Criteria of women delivered at Latina Clinic health services.

Table 1 Demographic characteristics of the study groups

	WCHS (n=582)	LCHS (n=118)	P Value
Race			<0.01
African American	385 (66.2%)	1 (0.9%)	
Hispanic	62 (10.7%)	116 (98.3%)	
White	59 (10.7%)	1 (0.9%)	
Other	76 (13.1%)	0	
Insurance			<0.01
Uninsured	4 (0.7%)	110 (93.2%)	
Public	442 (75.9%)	6 (5.1%)	
Private	96 (16.5%)	0	
Not Available	40 (6.9%)	2 (1.7%)	
Past Medical History			
Diabetes Mellitus	20 (3.4%)	0	0.041
Chronic Hypertension	42 (7.2%)	0	0.003
PIH	26 (4.5%)	1 (0.9%)	0.063
Other*	42 (7.2%)	5 (4.24%)	0.47

PIH, pregnancy induced hypertension
*Includes renal disease and HIV infection
#Data are presented as n (%)

Table 2 Secondary outcomes

	WCHS (n=582)	LCHS (n=118)	P Value
Prenatal care appointments			
Five or more	541 (93%)	106 (89.8 %)	0.2
Cesarean section			
Yes	171 (29.4%)	29 (24.6%)	0.3
Preterm birth			
Yes	82 (14.1%)	12 (10.2%)	0.3

#Data are presented as n (%)

Discussion

Our study showed a significantly higher attendance at the 6-week postpartum visit for women in our Latina Community Health Service (LCHS), which utilized the outreach program consisting of the "Promotoras" than WCHS. This rate was also higher within the LCHS after implementing the Promotoras program. We did not observe any difference in the number of women with ≥5 prenatal visit, preterm birth rates, or cesarean delivery

There are several studies showing benefit of outreach programs for low-income women; however, most of these studies were performed in low-resources countries.[1–4] Of those performed in the United States, Roman et al.[5] found that low income mothers who received home visits from the nurse-community health worker team had a higher perception of help and assistance during the postpartum period. Our study is consistent with this finding of a community health worker improving care in the postpartum period. Importantly; however, we were able to show this improvement in care using community volunteers and was not reliant upon nurse volunteers as seen in the Roman study.

Strength of this study is the ability to compare two low-income populations that, aside from the outreach program using community health care workers, had access to the same obstetrical services and antenatal/postnatal care. The main limitation to our study is the retrospective nature and the need to rely solely on chart abstraction. Therefore, we are limited only to data that was available on chart review. Additionally, while the two groups are similar in terms of their economic status, they differ by ethnicity, which could have played a role in the differences that we observed. Given the fact that the LCHS group was almost entirely Hispanic and uninsured, we were unable to control for race and insurance as a possible confounder.

Our study suggests that the "Promotoras" program is an effective tool to increase the compliance of postpartum visits. The "Promotoras" program provides a low cost intervention that can improve the adherence of care among patients. With a high compliance rate to postpartum care, we can have the opportunity to counsel and utilize birth control options, depression screening, gynecologic care, and sexually transmitted infection screening. We recommend that further studies be performed to evaluate the effects this and other community outreach program have on other obstetrical outcomes within the Unites States.

Acknowledgements

None.

Conflict of interest

Author declares that there is no conflict of interest.

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