
Impact of Doulas on Healthy Birth Outcomes

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ABSTRACT

Birth outcomes of two groups of socially disadvantaged mothers at risk for adverse birth outcomes, one receiving prebirth assistance from a certified doula and the other representing a sample of birthing mothers who elected to not work with a doula, were compared. All of the mothers were participants in a prenatal health and childbirth education program. Expectant mothers matched with a doula had better birth outcomes. Doula-assisted mothers were four times less likely to have a low birth weight (LBW) baby, two times less likely to experience a birth complication involving themselves or their baby, and significantly more likely to initiate breastfeeding. Communication with and encouragement from a doula throughout the pregnancy may have increased the mother's self-efficacy regarding her ability to impact her own pregnancy outcomes.

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Modern hospital maternity care practices have reduced the availability of an attending nurse to remain with a mother during labor. A result of this has been the loss of having someone at the bedside to offer continuous support throughout the birthing process (Papagni & Buckner, 2006). One study found that new mothers expected their nurse to spend 53% of her time offering support, but only 6%–10% of the nurse's time was actually engaged in labor support activities (Tumblin & Simkin, 2001). Because many women during labor are comforted and encouraged by having someone with them throughout labor and birth, support persons known as doulas have become increasingly present. Doulas are trained

to provide physical, emotional, and informational support to women during labor, birth, and in the immediate postpartum period. With the support of doulas, many women are able to forego epidurals, avoid cesarean births, and have less stressful births. A skilled doula empowers a woman to communicate her needs and perceptions and actualize her dream of a healthy, positive birth experience. The positive

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effects of doula care have been found to be greater for women who were socially disadvantaged, low income, unmarried, primiparous, giving birth in a hospital without a companion, or had experienced language/cultural barriers (Vonderheid, Kishi, Norr, & Klima, 2011).

One of the key aspects of the involvement of doulas is that they provide emotional and other support by maintaining a "constant presence" throughout labor, providing specific labor support techniques and strategies, encouraging laboring women and their families, and facilitating communication between mothers and medical caregivers. Studies examining the impact of continuous support by doulas report significant reductions in cesarean births, instrumental vaginal births, need for oxytocin augmentation, and shortened durations of labor (Campbell, Lake, Falk, & Backstrand, 2006; Klaus & Klaus, 2010; Newton, Chaudhuri, Grossman, & Merewood, 2009; Papagni & Buckner, 2006; Sauls, 2002). Continuous support also has been associated with higher newborn Apgar scores (greater than 7) and overall higher satisfaction by mothers with the birthing process (Sauls, 2002). Others report that many of these effects occurred when support was provided by someone other than an attending nurse (Rosen, 2004; Sakala, Declercq, & Corry, 2002; Sauls, 2002).

The evidence suggests that it is likely more than the emotional, physical, and informational support doulas give to women during the birthing process that accounts for the reduced need for clinical procedures during labor and birth, fewer birth complications, and more satisfying experiences during labor, birth, and postpartum (Meyer, Arnold, & Pascali-Bonaro, 2001; Wen, Korfmacher, Hans, & Henson, 2010). Klaus and Klaus (2010) argue that the modern hospital birthing process tends to be highly interventionist, taking away decision making from mothers. This results in many unwanted and, in many cases, unwarranted procedures. Medical providers sometimes prefer women to be compliant and recommend procedures to ward off pain and discomfort. However, these actions may actually interfere with birth outcomes, with mothers counseled to focus on their comfort and not necessarily on the possible implications of those interventions on the birth of their baby, the baby's immediate health, or on later complications from these procedures. A doula serves as a mother's advocate, providing a woman a sympathetic

but informed ear for the choices that the birthing staff may ask her to make during the birthing process (Hazard, Callister, Birkhead, & Nichols, 2009; Papagni & Buckner, 2006). The doula empowers decisions that are made in the best interest of both the mother and her child (Breedlove, 2005; Deitrick & Draves, 2008).

Studies that examine the relationship between birthing mothers and their doulas report consistently positive experiences (Deitrick & Draves, 2008; Hazard et al., 2009; Koumouitzes-Douvia & Carr, 2006). Other studies have noted positive effects into the postpartum period. Newton et al. (2009), for example, found among a sample of Latina women giving birth at a Boston hospital that mothers supported by doulas were more likely to breastfeed their newborns and to delay first infant formula feed. Similarly, Nommsen-Rivers, Mastergeorge, Hansen, Cullum, and Dewey (2009) reported that in comparison to a group of women receiving standard care ($n = 97$), a doula-paired group of women ($n = 44$) experienced significantly shorter periods of labor, less instances of instrument-assisted birth, and better Apgar scores (greater than 7) at 1 minute postpartum. The doula mothers also experienced earlier onset of lactogenesis (within 72 hours postpartum) and were more likely to breastfeed their babies at 6 weeks. In a study of 2,174 expectant mothers receiving doula services compared with a sample of 9,297 receiving standard care, Mottl-Santiago and associates (2007) also found higher rates of breastfeeding and early initiation rates among the doula-supported mothers.

Few studies have investigated the birth outcomes associated with and without the support of a doula. Campbell et al. (2006), in a study of 300 doula-supported and 300 nondoula-supported low income women giving birth between 1998 and 2002 at a perinatal care hospital in New Jersey, found that doula mothers had significantly shorter lengths of labor, more cervical dilation, and higher Apgar scores at 1 and 5 minutes. No differences were reported in birth weight or in rates of cesarean births or epidural anesthesia.

The purpose of this study is to present a comparative analysis of birth outcome results of two groups of mothers served by the same childbirth education program. The groups are defined by one receiving prebirth assistance from a certified doula and the other representing a sample of birthing mothers who elected not to work with a doula.

YWCA GREENSBORO HEALTHY BEGINNINGS DOULA PROGRAM

This program was launched in 2008 and is focused on reducing adverse birth outcomes by offering psychosocial, perinatal support, and wellness programming, including doula support for women at risk for adverse birth outcomes because of racial disparity (particularly African American and Hispanic), homelessness, interpersonal violence, unhealthy housing, poverty, or young age. The primary goal of this project is to reduce infant mortality, adverse birth outcomes, low birth weight (LBW), and prematurity in at-risk pregnant women through a system of psychosocial support that includes case management, home visitation, childbirth education, perinatal health, nutrition and fitness classes, and doula support. The program follows a *life course perspective* that views birth outcomes as the product of the entire life course of the woman, her family, and her partner and not just the 9 months of pregnancy. The program offers health education and wellness support in childbirth preparation, breastfeeding initiation, eliminating use and exposure to tobacco and other toxins, safe sleep, folic acid consumption, reproductive life planning, healthy relationships, stress management, healthy weight, and exercise. The program is based on an *empowerment philosophy* designed to empower young mothers, including helping them with seeking solutions, recognizing their strengths, and expecting themselves to be successful. In the program, participants are encouraged to clarify their health goals, identify barriers, learn and use problem-solving techniques, develop communication skills, and be proactive to reach their healthy birth goals. One critical mission of the program is to help participants develop healthy relationships with family, friends, and helping adults because these relationships support healthy births (Lu & Lu, 2007).

The Healthy Beginnings Doula Program (HBDP) integrates three critical methods of support for women at risk for adverse birth outcomes: individual case management, peer group education and support, and doula support. Although prenatal health and childbirth education traditionally focuses on pregnancy and doula care focuses more intently on childbirth, in HBDP these are more integrated and both begin in early pregnancy. Curriculum content includes birthing and baby development education,

self-care activities, enhanced perinatal health promotion, and peer support. These are all part of group prenatal education provided to program participants as supplemental to information they may receive from medical staff providing their prenatal care. Studies have found better birth outcomes (as measured by birth weight and gestational age) for women, particularly women of color, when they receive group-delivered prenatal care as opposed to just receiving care messages and support on a one-on-one basis (Ickovics et al., 2007). The goal of the HBDP is to deliver a series of educational messages and self-care instructional advice that can ameliorate factors that may jeopardize a healthy birth outcome. Risk reduction is achieved through concerted efforts to promote healthy behaviors, increase health knowledge, practice effective self-management of health activities, learn and apply problem-solving skills, and use social support.

The HBDP is designed to help women who are likely at risk for a possible adverse birth outcome because of psychosocial factors such as low income and racial disparities. The program helps these women access appropriate positive support through the use of doulas—women trained and dedicated to providing physical, emotional, and informational support during the prenatal, intranatal, and postnatal periods. Unlike more traditional doula programs, the doulas provided through the HBDP are available to a woman months before going into labor. The program pairs each expectant mother with a doula when she is ready to work with a doula. This provides the opportunity for doulas to offer support tailored to the expectant mother's specific needs through prenatal health visits and preparation for labor and birth.

Doulas who serve the HBDP are often female volunteers from the same communities as the women who receive their services. The volunteers participate in Doulas of North America (DONA) certified training program and are trained to provide practical and emotional support to pregnant women and their families before, during, and after birth. After completion of training, the doula volunteers receive continuing education on a monthly basis from the project coordinator and staff. Once paired with an expectant mother, a doula meets with her a minimum of two times before the birth, offers continuous assistance throughout labor and birth, and visits her at least twice postpartum.

METHOD

Doulas

During the period of this study, 47 women served as birth doulas to the women in this sample. They ranged in age from 22 to 59 years. About half were under the age of 30 years. Most of the doulas were either White (44%) or African American (41%). Most (87%) had attended at least some college; slightly more than two thirds were college graduates. About half of the doulas worked in professional occupations including program managers, educators, or nurses. The rest were nonprofessionals such as homemakers, technicians, food service workers, or students.

THE HEALTHY MOMS HEALTHY BABIES CHILDBIRTH EDUCATION CLASSES

In addition to being paired with a doula, program participants were offered 8-week childbirth education classes. These classes included health education on folic acid, nutrition, breastfeeding, smoking and substance abuse cessation, safe sleeping, purple crying, neonatal care, and maternal mental health. The classes were conducted in the context of a peer support model similar to Centering Pregnancy, a best practice model. All expectant participants received individual support through case management including weekly phone calls and semimonthly or more frequent home visits as needed.

Assignment of Doulas to Expectant Mothers

Expectant mothers who attended at least three of the eight childbirth classes were given the option to have a doula. Program coordinators and childbirth instructors introduced individual doulas and provided information about available doulas in each childbirth class. Participants were matched with doulas based on the availability of the doulas near the mother's expected due date as well as compatibility on a number of other attributes (e.g., language, race/ethnicity, personality). Once all these factors were evaluated, case managers matched the mothers with a primary doula and a "backup" doula in case the primary doula was not available when the mother went into labor. The role of HBDP doulas was not limited to just the labor and birth process. Most of the pregnant women participating in the program were connected with a doula shortly after they entered the program. For many of these mothers, this enabled the doulas to provide support and encouragement regarding prenatal visits long before the visit to the

hospital to give birth. Others have reported similar positive connections with prenatal care following pairing pregnant women with a doula (e.g., Deitrick & Draves, 2008). Many doulas also attended childbirth education classes with the expectant mothers. The doulas met with the expectant mothers two times before the birth, offered continuous assistance throughout labor and birth, and visited them at least two times postpartum. The doulas ideally arrived at the hospital before the mother was at 4 cm during labor and stayed for about an hour after the birth. The doulas kept the women comforted, informed, and empowered during labor and facilitated communication with both hospital staff and personal support people so that the mothers felt in control of their medical decisions and birth experience. The doulas helped with newborn care and breastfeeding right after birth.

Program Participants

The expectant mothers included in the sample were identified by health professionals, social workers, counselors, school nurses, obstetrics and gynecology (OB/GYN) offices, nonprofit agencies, schools, college campuses, community settings such as churches and libraries, through peers, and self-referral. Participants were mostly low income, in school, in unskilled jobs or unemployed, and living in neighborhoods characterized by poverty, high rates of unemployment, crime, substance abuse, interpersonal violence, and lack of educational attainment.

This study used a nonexperimental design with assignment to groups (doula vs. nondoula) based on whether the participant in the program used a doula in preparation for birth and delivery. All analyzed data were collected as a routine part of program services. This study was conducted in accordance with the human subjects' protection guidelines of the first author's university.

Two hundred eighty-nine pregnant females (adolescents and young adults aged 13–30 years) were served by the YWCA Greensboro between January 2008 and December 2010. Inclusion in the sample for this study was limited to expectant mothers who attended at least three *Healthy Moms Healthy Babies* childbirth classes. The YWCA considers attendance at two or fewer childbirth classes as representing insufficient exposure to the program's philosophy and birth preparation information. Based on this criterion, the sample for this study was composed of 226 expectant mothers who participated in at

least three of the childbirth classes. Of these, 129 gave birth without the assistance of a doula, and 97 worked with a doula. The birth weight of the baby of one nondoula mother was not recorded, and this case was eliminated from the sample resulting in 128 nondoula-assisted cases. The data sample provided the opportunity to conduct a comparison of the impact of doula versus nondoula assistance on birth outcomes.

The race/ethnicity and distribution of age of the sample are presented in Table 1. The data show that the two groups were very similar by race/ethnicity with most of both groups represented by women who identified themselves as African American. The age of the two groups was comparable; the nondoula group was slightly younger than the doula group.

Also presented in Table 1 was with whom the mothers reported living at the time of the birth of their babies. The data show that nondoula mothers were significantly more likely to be living with family or guardians than the doula mothers. Conversely, doula mothers were significantly more likely to be living with partners or nonfamily (33.0%) than the nondoula mothers (13.3%). The difference was mostly because of the percentage of nondoula adolescent mothers living with family/guardian (74.7%)

as compared with 47.1% of doula-assisted teenage mothers. Percentages of adults living with family at the time of birth were 56.1% and 41.3%, nondoula/doula mothers, respectively. One additional characteristic of note for the two samples was that at the time of intake into the program, both groups reported low levels of expected support (not including doulas) at labor—18.0% for nondoula mothers (18.4% of adolescents/17.1% of adults) and 19.6% of doula mothers (13.7% of adolescents/26.1% of adults).

Impact Measures

The impact of having a doula was assessed by the following measures: (a) type of birth, (b) incidence of having a LBW baby, (c) incidence of complications at birth for either the mother or baby, and (d) incidence of initial breastfeeding.

Comparative Analyses

Proportions were compared using z-test analysis (Joosse, 2011). *P* values of less than .05 were used for identification that proportions were significantly different.

RESULTS

Type of Birth

A summary of the number and percentages of the type of birth by whether the mother was an adolescent or adult and doula or nondoula assisted is presented in Table 2. From the table, it can be seen that there were minimal differences by age group or doula assistance status, although the rates of cesarean birth were higher for nondoula-assisted mothers. More than three fourths of births were vaginal; more than half involved an epidural.

Incidence of Low Birth Weight

The incidence of LBW births (less than 5.5 lb) is presented in Table 3. Comparisons of the percentage of LBW births between doula and nondoula mothers by adolescent and adult groups showed no statistical significance. However, the comparison of the age group samples combined yielded a significant difference. Nondoula-assisted mothers were four times more likely to have an LBW baby than mothers who were assisted by a doula.

Birth Complications

The number of births involving a medical issue relating to either the mother or her baby is presented

TABLE 1
Race/Ethnicity, Age, and Living Situation of the Mothers in the Sample

Race/Ethnicity	Nondoula Mothers (<i>N</i> = 128)		Mothers With Doulas (<i>N</i> = 97)	
	<i>f</i>	%	<i>f</i>	%
African American	101	78.9	75	77.3
White	8	6.3	8	8.2
Other	19	14.8	14	14.4
Mean age	19.1		20.3	
Median age	18.3		20.0	
Age range	13–30		13–31	
Living situation				
Alone	7	5.5	7	7.2
Family/guardian	88	68.8 ^a	43	44.3 ^a
Friends	2	1.6 ^b	10	10.3 ^b
Partner	10	7.8 ^b	15	15.5 ^b
Other	5	3.9 ^b	7	7.2 ^b
Not reported	16	12.5	15	15.5

Note. Percentages with same superscript were compared using a z-test analysis.

^az score = 3.68, *p* < .0003, CI = 95%.

^bz score = 3.54, *p* < .0004, CI = 95% (based on combination of friends + partner + other).

TABLE 2
Type of Birth

	Adolescents		Adults		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Nondoula mothers						
Vaginal	19	21.8	9	22.0	28	21.9
Vaginal + epidural	48	55.2	20	48.8	68	53.1
Cesarean	19	21.8	12	29.3	31	24.2
Not reported	1	1.1	—	—	1	0.8
Total	87	100.0	41	100.0	128	100.0
Mothers with doulas						
Vaginal	11	23.9	15	29.4	26	26.8
Vaginal + epidural	27	58.7	25	49.0	52	53.6
Cesarean	8	17.4	11	21.6	19	19.6
Total	46	100.0	51	100.0	97	100.0

Note. None of the compared percentages between groups was significant.

in Table 4. The rates of complications for adolescents and adults for doula versus nondoula-assisted mothers, although higher for the nondoula mothers, were not statistically different.

Initiation of Breastfeeding

Initiation of breastfeeding percentages are presented in Table 5. The data show that about two thirds of the adolescents in both the nondoula- and doula-assisted groups reported initiating breastfeeding. For the adults, nearly all of the mothers in the doula-assisted groups initiated breastfeeding compared with slightly less than three fourths of the nondoula-assisted adults. Overall, the adult and the combined

sample of adolescent and adult doula-assisted mothers reported significantly greater percentages of breastfeeding initiation compared with their adult and combined adult and adolescent nondoula counterparts.

DISCUSSION

The results show that expectant mothers matched with a doula had better birth outcomes than did mothers who gave birth without involvement of a doula. Doula-assisted mothers were four times less likely to have a LBW baby, two times less likely to experience a birth complication involving themselves or their baby, and significantly more likely to

TABLE 3
Number and Percentage of Low Birth Weight

	Cases		Low Birth Weight (<5.5 lb) Babies	
	<i>f</i>	%	<i>f</i>	%
	Nondoula mothers			
Adolescents	87	68.0	5	5.7 ^a
Adults	41	31.8	6	14.6 ^b
Total	128	100.0	11	8.6 ^c
Mothers with doulas				
Adolescents	46	47.4	0	0.0 ^a
Adults	51	52.6	2	3.9 ^b
Total	97	100.0	2	2.1 ^c

Note. Percentages with same superscript were compared using a z-test analysis.

^az score = 1.15, *p* > .05.

^bz score = 1.47, *p* > .05.

^cz score = 1.78, *p* < .04, CI = 95%.

TABLE 4
Number and Percentage of Births With Complications to Either the Mother or the Baby

	Cases	
	<i>f</i>	%
Nondoula mothers		
Adolescents (<i>n</i> = 87)	18	20.7 ^a
Adults (<i>n</i> = 41)	7	17.1 ^b
Total (<i>N</i> = 128)	25	19.5 ^c
Mothers with doulas		
Adolescents (<i>n</i> = 46)	5	10.9 ^a
Adults (<i>n</i> = 51)	5	9.8 ^b
Total (<i>N</i> = 97)	10	10.3 ^c

Note. Percentages with same superscript were compared using a z-test analysis.

^az = 1.45 *p* > .05.

^bz = 0.75 *p* > .05.

^cz = 1.91 *p* < .04, CI = 95%.

TABLE 5
Number Reporting Initiation of Breastfeeding^a

	Nondoula Mothers (N = 128)		Mothers With Doulas (N = 97)	
	f	%	f	%
Adolescents	56	64.4 ^b	31	67.4 ^b
Adults	30	73.2 ^c	46	90.2 ^c
Total	86	67.2 ^d	77	79.4 ^d

Note. Percentages with same superscript were compared using a z-test analysis.

^aIncludes feeding at breast or milk expression.

^bz = 0.25, p > .05.

^cz = 1.91, p < .04, CI = 95%.

^dz = 1.84, p < .03, CI = 95%.

initiate breastfeeding. With the exception of breastfeeding, comparison of adolescent and adult expectant mothers was not significantly different on these outcomes. Nearly all (90.4%) of the adult mothers assisted by a doula chose to initiate breastfeeding.

Although it cannot be determined conclusively that having a doula was the reason for the greater likelihood of positive birth outcomes, this deserves a strong consideration because of the fact that the two groups of mothers were in most ways indistinguishable. They were similar in age, race/ethnicity, income status, and geographic location. All of the mothers had participated in at least three of the agency's childbirth classes, and all received case management as part of their participation with the agency. They did differ in terms of with whom they were living prior to birth, with the doula group more likely to be living with partners or nonfamily others compared with the nondoula group who were far more likely to be living with family (not including partners). This difference, however, did not relate to higher frequencies of expected birth support for the nondoula mothers. As a group, there was a significant 15% difference between expected support reported by doula-assisted mothers and that reported by the nondoula-assisted mothers. This means that even though more of the doula-assisted mothers expected support from someone close to them at prebirth or birth, they also wanted to have additional support, which was provided to them by a doula. Although not collected systematically as part of this study, doulas and case managers reported that mothers who had a doula were positive about the support they received from doulas prior to the prenatal period and during labor and birth. These

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reports underscore the value of doulas as sources of dependable and consistent support.

Although the primary focus of this article was to report the positive impact on birth outcomes for an at-risk group of mothers, it is important to note that the doulas were not a completely independent source of information and support. Their role was supplemented by the combination of peer group support (including prenatal health and fitness classes, health literacy) and peer group education and individual support (in the form of case management and doulas) provided through the YWCA's Healthy Moms Healthy Babies childbirth education classes. In these classes, participants learned about prenatal care; reproductive life planning; prenatal fitness and healthy nutrition; multivitamins and folic acid; and information on breastfeeding, healthy relationship formation, nutrition and cooking, stress management, and safe and secure housing. Doula- and nondoula-assisted mothers participated in the same childbirth classes.

It is notable that despite participating in the same education classes, the women who chose to work with a doula had significantly better birth outcomes as measured by birth weight and fewer birth complications. This finding suggests that women who embraced the premise that a doula may help empower them to influence their birthing experience, manage their labors more effectively, and reach their expectations and hopes for a positive, healthy birth also may have realized that they could improve their prenatal health and the likelihood of a healthy birth outcome through their active participation and engagement in the healthy prenatal activities offered by this program.

Why some of the expectant mother chose to work with a doula, whereas others did not remains an open question. One possibility is those who chose to work with a doula believed that it would enhance the information and support they were getting from the childbirth classes. Conversely, those who were not convinced that a doula could improve their birth experience may have also been less influenced by the other components of this program and the belief that their behavior changes could improve their chances

for a healthy birth weight baby. Another possibility is that the women who chose doula support were most in need of support (Gilliland, 2002). If this is true, then their significantly better birth outcomes are even more noteworthy. Perhaps they did not have significant other people who were willing or able to help them during labor and birth. However, it is equally plausible that those who chose doula support were able to benefit from this support and reduced impact of factors associated with adverse birth outcomes. Because the doula group was more likely to be living on their own or with a partner, this might indicate they were more comfortable involving others outside of their family or support group. These possible connections and potential for positive impact on birth outcomes warrant further investigation.

Limitations

One limitation of this study is that participants self-selected themselves to work with a doula. Conceivably, expectant mothers who perceive the need or like the idea of having someone such as a doula assist them at the time they give birth are different than those who do not and take extra precautions for increasing the chance of a healthy birth. In this study, the decision to work with a doula was likely as much a critical determinant of birth outcomes (as defined by birth weight) as the actual support activities the doula provided. Another limitation was that there was no information on who else was involved in providing support to the mothers leading up to birth. Because having a doula was self-determined, it may have been that mothers choosing to have a doula did so because there was “no one else.” It is more likely, however, that rather than being “isolated,” expectant mothers who chose to work with a doula were interested in sources that could reduce the stress associated with having a baby and navigating the birth process. Finally, as noted, the doula involvement was not independent of other services and support received by program participants. It is possible that the “doula experience” amplified messages and recommendations provided by others involved in the expectant mothers’ lives. Because the doulas were assigned to interested participants in the beginning of their involvement with this program, they had time to discuss the birthing experience and to bond with expectant mothers and to help them prepare for delivery and birth of the baby.

CONCLUSION

Doulas can empower women to achieve the best birth outcomes possible, and all outcomes—for

births, infants, and mothers—seem to be affected more positively if support is provided by a doula in addition to the medical personnel. The doula focuses on individualized support before, during, and after birth; whereas nurses often are attending to several women in labor and responsible for many clinical and administrative tasks besides direct labor support. Research indicates that the expectation of nurse support by expectant women may be far greater than what is actually provided (Tumblin & Simkin, 2001). Hospitals could address this disparity by including a system of doula support.

Although all women in this program received education and support from staff and peers, the extra dimension of a doula may have increased the empowerment and motivation of women to improve their health prenatally. Women are motivated to have healthy babies. They are also motivated to have manageable labor and birth experiences. Women who embraced the idea that doula support could improve their locus of control in labor and birth may have increased and acted on their belief that their prenatal health behaviors would improve their birth outcomes (Weisman et al., 2008). HBDP is part of a complex of programs offered by the YWCA intended to help women increase not only their knowledge and practice of healthy prenatal behaviors but also their self-efficacy and informed decision making in developing and implementing healthy behaviors. The involvement of a doula seems to magnify the impact of these programs resulting in even better birth outcomes and birth experiences.

Implications for Childbirth Educators and Nurses

This study reinforces the case that doula involvement is a cost-effective method to improve outcomes for mothers and infants. Furthermore, this study demonstrates that doulas can have an impact beyond the birth process itself (reducing cesarean births, birth complications, and medical interventions as has been shown in other studies) and the mother’s experience of the birth (resulting in increased satisfaction, mother/baby attachment, and breastfeeding). Doula assistance in this case seems to have impacted health choices of expectant mothers *during* pregnancy, resulting in lower risk of LBW births. Doulas may have enhanced processing and internalization of the information presented in the group childbirth education classes. Communication with and encouragement from a doula throughout the pregnancy may have increased the mother’s self-efficacy regarding

her ability to impact her own pregnancy outcomes. Support from a doula and the security of knowing she would be present at the birth may have reduced a measure of the stress and anxiety experienced by the mother. In light of these outcomes, practitioners should consider doulas as a part of an enhanced prenatal group care program to improve birth outcomes and involve them early in the pregnancy.

This study indicates that the inclusion of doulas in the prenatal period, at a point when behavioral changes can most impact birth outcomes, is most effective. Therefore, if obstetricians and other birthing professionals could include a plan of doula support in the prenatal period, adverse birth outcomes associated with a lack of social support or for women in general could be reduced. This would benefit the women and babies, medical practitioners, hospitals, and the greater community in reducing the financial and personal costs of adverse birth outcomes.

Offering doulas as part of a menu of choices in the prenatal period would be a way to empower women to be actively involved in preparing for birth and developing self-efficacy in maternal health behaviors. Women offered evidenced-based health information, support in improving their prenatal health behaviors, and the kinds of support provided by doulas are likely to make more informed choices throughout the pregnancy regarding their health and that of their baby.

The results of this study indicate that if offered a comprehensive system of psychosocial and health support, socially disadvantaged women can improve their birth outcomes. The women served by this project often do not believe they can impact their health or their birth outcomes. Practitioners who work with them also often have little confidence that they can help disadvantaged women change their health behaviors and improve their birth outcomes. This study indicates that both of these groups can build their self-efficacy and together, as partners in this journey, improve birth outcomes. Based on the empowerment model, both the mothers and the practitioners need to be copilots in improving health behaviors. Doulas, as part of a comprehensive system of support, can help mediate this process.

Future research should attempt to isolate the variables that resulted in positive outcomes in this case. Questions to be examined include individual compared to group care with doula assistance, the optimal time for doula involvement, the role of informed decision making in birth outcomes, and perceptions

and decision-making processes of women in opting for the support of a doula.

Hospital and community health policy may benefit from enhanced prenatal health and childbirth education and support including doula assistance for all women but particularly for women at risk for adverse birth outcomes because of homelessness, racial disparities, adolescence, violence, and lack of psychosocial support. This support empowers women to take charge of their own prenatal health, thus improving birth outcomes.

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