

CURRICULUM DEVELOPMENT AND PILOT PROGRAM OF PRECONCEPTION  
PLANNING FOR LATINAS

A Major Paper Presented

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## Abstract

Preconception planning is gaining popularity and is a promising method of improving pregnancy outcomes. The need to incorporate this kind of education in various settings is also identified in the literature. According to the March of Dimes, between 2004-2006 Hispanics had one of the highest preterm birth rate of 12.1% in the U.S. and 13.6% in RI (March of Dimes, 2009). In addition, during the same years RI statistics on low birth weight infants among Hispanics were 8.3% and 6.9% in the U.S. Healthy People 2010 suggested that this rate should be no more than 5% of live births. A preconception planning program connected with Latina women who were involved in a home based education program at a local community agency. This program used interactive learning, role play, and self-management skills aimed to empower participants by educating them about their health and future pregnancies. The selected educational topics included nutrition, exercise, stress reduction, lead, mercury, influenza and HPV vaccines, smoking and alcohol. Information about health and social services in the community were also provided. Most of the program participants demonstrated improvement in the post-test scores. The challenges faced by this program included lack of consistency in attendance and participants' difficulties answering open-ended questions. More emphasis on education for the minority population is recommended to improve maternal and child health outcomes. In addition, increasing cultural competency and diversity among the nursing profession is critical to improving outcomes.



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## Curriculum Development and Pilot Program of Preconception Planning for Latinas

### Statement of the Problem

A woman's experience with pregnancy and her child's birth outcomes depend greatly on her overall health status. Past life experiences and choices prior to conception have an equal impact. It is critical for females of childbearing age to care for themselves in preparation for initiating pregnancy. Posner, Johnson, Parker, Atrash, & Bierman (2006) emphasized the importance of a woman's good health as she attempts to become pregnant because shortly after conception, the risk to fetal development is higher. Even preconception care started one month before conception has been demonstrated to improve pregnancy outcomes (Brundage, 2002).

In 2006, the Center for Disease Control (CDC) identified the nation's growing poor birth outcomes, which to a great extent could be blamed on mothers' poor health. Improving conception care delivery in the health care arena is a key intervention which has been recommended to improve these adverse outcomes (Richardson, Parker, and Atrash, 2007). In addition, increasing outreach into community organizations is needed to enhance preconception awareness (Richardson et al.) Providing education to the community at risk for negative pregnancy outcomes outside of a clinical setting could be a start to enhance the delivery and knowledge about preconception and inter-conception care.

Korenbrodt, Steinberg, Bender and Newberry (2002) noted that few women seek care prior to conception and many women have unintended pregnancies or seek care too late in pregnancy. According to data from the CDC, low income and minority women are at

higher risk for unintended pregnancy and negative pregnancy outcomes (Gavin, Adams, Hartmann, Benedict, & Chireau, 2004). This group of women is also least likely to receive prenatal and preconception health care services (Gavin et al.). In addition there is an existent gap to early initiation of prenatal services among minority women. The literature suggests that minority women of childbearing age are facing disparities in receiving preconception services which results in poor pregnancy outcomes (Gavin et al.). The benefits of community outreach and comprehensive education about key health factors before pregnancy has the potential to greatly reduce these differences and enhance the health of the mother and the baby.



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## Literature Review

### *Background*

Research indicates that preconception care and pregnancy readiness concepts should be included as a critical part of programs and policies serving all women of childbearing ability (Korenbrot et al., 2002). The CDC has also emphasized the importance of promoting optimal health for women and couples before conceiving a child, with the hope of improving pregnancy outcomes (Richardson et al. 2007). In addition, the CDC has supported the notion of a lifespan approach to preconception health (Boulet, Johnson, Parker, Posner, & Atrash, 2006). One of the objectives of Healthy People 2020 regarding maternal, infant, and child health aims to increase the percentage of women receiving preconception care services. Furthermore, targeting women at risk for poor health and pregnancy outcomes is necessary. Biermann, Dunlop, Brady, Dubin and Brann (2006) identified two programs targeting women at risk based on race/ethnicity and financial status. Both programs were found to be promising in improving pregnancy related outcomes. The researchers tailored their interventions to the target population; preconception care was added to existing services as well as family planning, health education and community outreach.

Quinn, Hauser, Bell-Ellison, Rodriguez, and Frias (2006) conducted formative research on 44 Hispanic women of low socioeconomic status in the state of Florida in order to find an effective marketing message related to folic acid consumption. The importance of cultural sensitivity in the content of the message as well as sensitivity to the specific issues Hispanic women face were found to be key to effective messages.



Critical themes identified were to include the role of the partners and the family in the promotions targeted at these groups. Clarifying myths, misperceptions and misunderstandings about folic acid was ongoing. Educational brochures were provided and well received by members of the target audience. Vulnerable Latina women in this study demonstrated willingness to learn about interventions that would improve the health of their children.

Downs et al. (2008) developed a preconception educational intervention targeting low income, rural women in central Pennsylvania using small randomized controlled groups in various community settings. The focus of the intervention was to improve the women's self-efficacy for behavior change and to test their behavioral intent and behavior change in the topic areas discussed in each session. The topics included risk factors related to pregnancy derived from a population survey data, including pregnancy and conception, nutrition, physical activity, stress, smoking, alcohol consumption and gynecological infections. Hillemeier et al., (2008a) implemented Downs et al.'s intervention and found the women in the intervention group reporting significant positive behavioral changes related to better nutrition, physical activity, and stress management in comparison to the control group.

The literature cautions that focusing solely on prenatal health services is not enough to promote optimal pregnancy outcomes. In fact, when that time comes, it may be too late for some irreversible birth damages, such as neural tube defects. Seven maternal antecedents have been identified to be responsible for positive outcomes at birth and into early childhood: (a) mother's physical and mental health; (b) mother's receipt of health-



related services; (c) mother's health-related behaviors; (d) absence of material hardship; (e) marriage and social support; (f) mother's attitudes about pregnancy; and (g) social and demographic factors, such as maternal literacy, education, and immigration status (Logan, Moore, Manlove, Mincieli, & Cottingham, 2007; Klerman et al., 2008). All these factors influence a mother's well-being well before conception and after the delivery. McDonald, Suellentrop, Paulozzi, and Morrow (2007) also found that Hispanic mothers are younger, of lower socioeconomic status, and more likely to report late prenatal care.

Atrash et al. (2008) recognized the current practice of health care providers focusing on a woman's health during pregnancy in an attempt to improve pregnancy outcomes. Women are entering their childbearing age years with more chronic conditions and minority women are being disproportionately affected by hypertension, heart disease, stroke, cancer, and poor reproductive health. A call for change has occurred, proposing to integrate preconception care throughout a woman's lifespan and into a standard practice in our healthcare systems. Without such changes, the concept of preconception care will not advance or be successful affecting not only the mother and child but our whole population as well.

Folic acid consumption before conception can prevent birth anomalies such as neural tube defects, and also prevent preterm and small-for-gestational-age births (Catov, Bodnar, Ness Markovic, & Roberts, 2007; Lawrence et al., 2003; March of Dimes, 2009). Healthy People 2020 (US Department of Health and Human Services [USDHHS], 2009) objectives regarding folic acid aim to increase the number of women taking 400mcg of



folic acid on a daily basis before getting pregnant. DeRosset, Mullenix, and Zhang (2009) found that multivitamin consumption was low among a Hispanic group of women in North Carolina, but even lower was among those Hispanic women actively attempting or contemplating pregnancy. This study also indicated some myths and barriers among this group related to the intake of folic acid, such as the need for a prescription to get the multivitamins and that the multivitamins cause weight gain. In other studies where the audiences were low income women, their awareness and consumption of folic acid increased after receiving nutrition education compared to the control group (Cena et al., 2008; Elsinga et al., 2008).

Generalized knowledge of preconception care was found to be significantly lower in a vulnerable group of low income minority women. Coonrod, Bruce, Malcom, Drachman, and Frey (2009) employed a cross-sectional survey of 288 low income, Mexican women of childbearing age. The purpose of the study was to determine this group of women's knowledge and attitudes regarding preconception care. This study demonstrated the samples' minority women's lower knowledge base related to preconception health as compared to more affluent women. Both groups indicated similar interest in preconception education, especially before pregnancy, a time which has been determined to be one of the most favorable times for this type of education. This vulnerable group of low income, minority women often encounters barriers when trying to access medical care and other social services needed before getting pregnant.

Lack of access to care is a significant barrier, particularly for women without health insurance or in medically underserved areas (Hillemeir, Weisman, Chase, Dyer, &



Shaffer, 2008b; Johnson, 2006). Salganicoff and An (2008) have proposed changes to the current Medicaid program in order to improve access to medical care in an attempt to impact maternal and infant outcomes. These authors explained that the current Medicaid program focuses on providing health coverage to low income women who are pregnant or have dependent children, denying access to the women who are not expecting. Most of these women are uninsured by the beginning of pregnancy or before they conceive. Many lose their Medicaid coverage 60 days postpartum, leaving them again without access to health insurance for pre pregnancy planning (Salganicoff & An). Adding components of preconception care into routine, primary care and increasing federal support to health centers in medically underserved areas have been recommended to improve access to preconception care and planning (Johnson, 2006; Moos et al., 2008). Providing information about community programs that are available, teaching strategic approaches to use in using them and simplifying the process of the application are proposed tactics to increase the use of these preventative services (Salganicoff & An, 2008).

Members of this special population of women also face other burdens (Ruhl & Moran, 2008). Social, language, and cultural obstacles often experienced may affect preconception health. These limitations might be more severe for undocumented immigrants, who are at increased risk of not having a source of health care or health insurance, and who do not see a health professional regularly compared to those vulnerable women born in the US (Ruhl & Moran). Ruhl and Moran concluded that attention must be given to these womens' preconception issues and recommended



working with community-based organizations in providing messages on reproductive health in non health care settings.

Programs such as Early Head Start have reported success in preventing closely spaced and unplanned pregnancies (Klerman & Dawson, 2009). Community nurses and other non health professionals in a community setting have been identified as having a significant influence on the population they serve (Klerman & Dawson). These professionals work with the stated needs of the client rather than their professional roles of staff. The authors agreed about the importance of including family planning discussions with all parents in their case plans to allow for better pregnancy outcomes.

In summary, the literature illustrates vulnerable women such as low income Latinas and their children are at risk for increased negative outcomes. Proactive interventions which occur at preconception can prevent these negative results. The unique role of the community nurse may offer an opportunity for preconception intervention to promote positive outcomes for vulnerable women and children. The proposed program will provide an educational curriculum to health and human service staff working with Latina women of childbearing age to impact upon maternal child health outcomes.

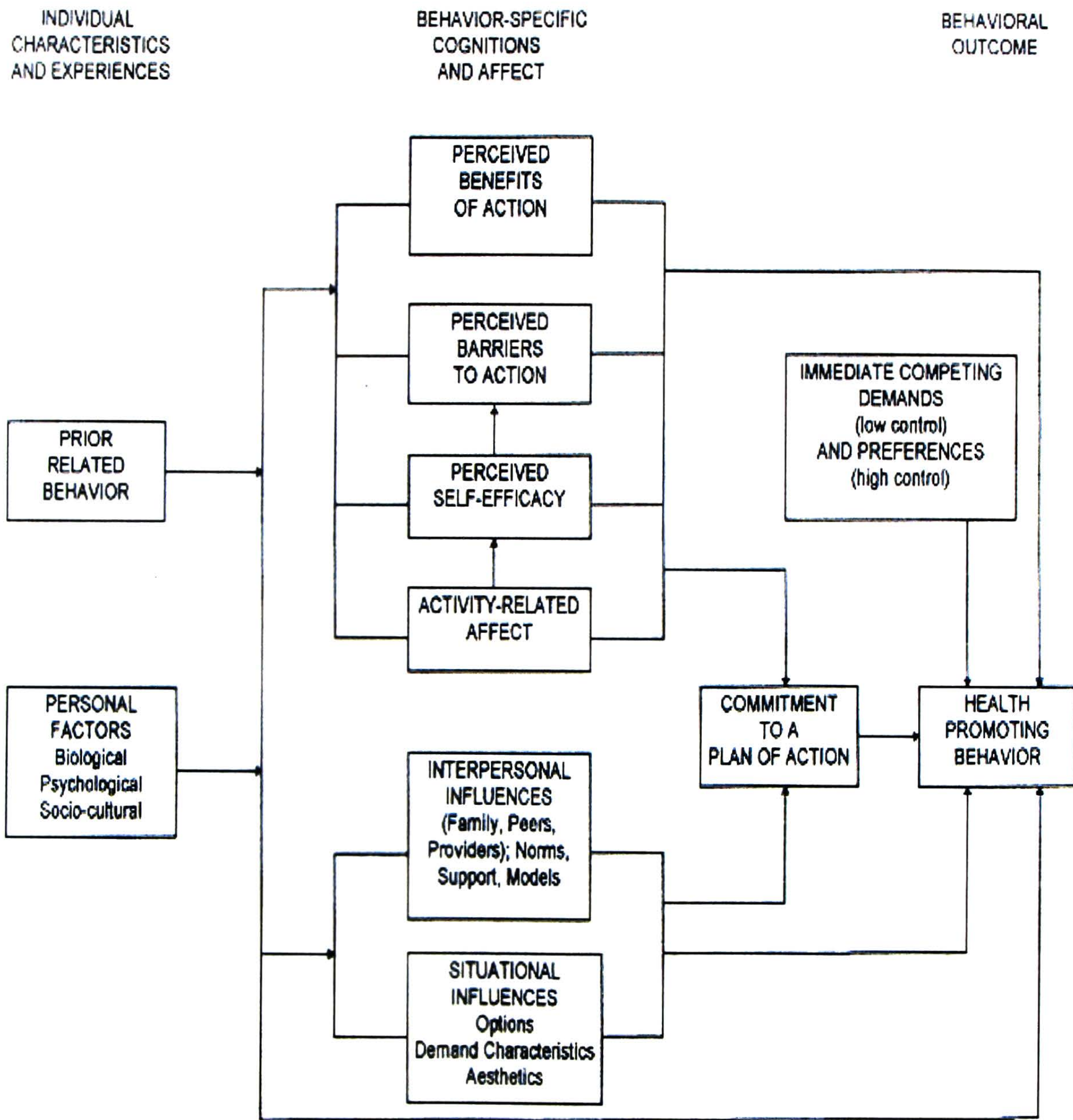


### Theoretical Frameworks

The theoretical framework which guides this program development initiative is Nola Pender's Health Promotion Model (2005) (Figure 1). This model has been used for research targeted at predicting overall health-promoting lifestyles and specific individual's behaviors (Pender, 1996). The Health Promotion Model focuses on three major areas: individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcome (Pender, Murdaugh, & Parsons, 2005).

Individual characteristics include prior related behaviors and the individual's distinctive personal factors including biological, psychosocial and socio-cultural factors that may have an impact in carrying out the behavior. Behavior-specific cognitions and affect suggest the individual's level of motivation and include the a) perceived benefits and b) barriers to carry out the action; c) perceived self-efficacy; d) activity-related affect, which is the individual's feelings about the behavior; e) interpersonal influences including the family, friends, community/societal support, and modeling of others carrying out the action; f) situational influences including perceived options, demands and environmental factors that may impact the action. This model also examines: the personal commitment to carry out the behavior; specific strategies to adhere to the behavior; competing demands that may occur unexpectedly; and personal preferences that may compete with the chosen new behavior. The last piece of the model, behavioral outcome, defines the overall goal: health promoting behavior for Latina women living in Central Falls.





Revised Health Promotion Model

Figure 1. Pender's Health Promotion Model (University of Michigan School of Nursing, 2005)



Several studies in which the participants were Hispanic have been done using Pender's Model. Hulme et al. (2003) used the Pender's health promotion model in a study done using a convenience sample of 545 Hispanic adults to determine their actual health promoting lifestyle behaviors, differences related to demographics and acculturation and their perceived health status. The authors found low participation in health responsibility behaviors; improvements were seen among those with higher acculturation levels. Most of the participants in this study were considered to have poor or fair health. The authors recommended encouraging Hispanic women to choose healthier behaviors and to provide this population information on health resources in order to increase health responsibility.

Similarly, Bond, Jones, Cason, Campbell, & Hall (2002) used the Pender's Health Promotion Model in an attempt to identify health promoting lifestyle behaviors in a group of 230 Hispanic pregnant women and the association with their levels of acculturation. The pregnant Hispanic women with lower and higher acculturation levels to the U.S. customs responded that they engage routinely on health promoting behaviors, whereas the women who were in the middle of transitioning to the U.S. culture scored lower on this variable. The authors concluded the importance of considering acculturation when carrying out an intervention to this type of group. They found adapting to a new culture as a stressful experience, a "bumpy road" for most. Being a recent immigrant or being a more assimilated Hispanic was found to be characteristics predictable of their health status. Schlickau and Wilson (2005) conducted a literature review to find evidence demonstrating the relationship of breastfeeding and health in Hispanics and to find the



usefulness of the Health Promotion Model in breastfeeding interventions among Hispanics. It was concluded that breastfeeding is reasonably a health promoting behavior for Hispanics. They also found the Health Promotion Model as being useful in planning interventions related to breastfeeding promotion because the model's determinants of health portray the determinants of breastfeeding as well. Their findings also offered more evidence on the importance of acculturation, perceived self-efficacy, support and immediate competing demands for Hispanic women in engaging in breastfeeding as a health promotion practice.

Several components of the Pender's model were used to guide this program. Personal factors of the participants were taken into account. All of participants were of childbearing age with one or more children under three years of age. They shared common sociocultural factors such as race, ethnic origin, education and socioeconomic status, and they each had different levels of acculturation. The participants expressed differences in self-motivation, knowledge about pregnancy planning and perceived health status.

The group's perceived barriers, interpersonal influences, and competing demands and preferences for changes in their behavior were also considered. As described earlier, most of these women's low socioeconomic status and lack of access to options and alternatives could pose a threat to a commitment for action. Lack of social support and social pressures among these women were considered. This program aimed to offer ideas for solutions to problems they encounter in navigating the health care system and social services. Support, encouragement and role modeling from the educator were an integral



part of the program. All the information discussed and shared contained culturally sensitive content regarding preconception planning. The woman specific issues which they faced in their community were also taken into account in the interaction. A comprehensive needs assessment provided with the evidence that such program was needed in this community. The logic model provided a suitable framework within which to develop this intervention to promote preconception planning.

### *Knowles' Principles of Adult Learning*

The classic Principles of Adult Learning (Knowles, 1959) were used in this program. Knowles identified that adults are autonomous and self-directed. The program was developed to encourage participants to engage in acting as active learners and participate in the discussions. Their opinions were respected, and they were not judged if they choose not to share any information. Knowles also suggested that adults are relevancy-oriented and practical (Knowles). For this reason, the program's content was designed to be applicable to their daily life experiences, such as healthy nutrition, frequent exercise, and how they could integrate these positive changes into their busy lives using appropriate ethnic foods of their choice. Listening during the educational sessions would be emphasized. According to Knowles (1970), active listening would demonstrate caring from the presenter to the participants. Freedom of expression and availability of information were also identified as making the environment conducive to learning (Knowles). The educational sessions were planned to be informal, relaxed, and lively. Written educational materials in the form of brochures and handouts were developed to be available at each encounter.



Knowles (1959) also proposed group discussions and leader-centered discussions as promoting the highest degree of interaction among students and teacher, influencing personal values, deepening understanding and moving towards reaching decisions or plans for action. This program was aimed at offering informal but planned lectures, keyed to the needs and interests of the participants. Active participation was encouraged and facilitated. Role playing was planned as another way of instruction, designed to be fun and meaningful to participants. Knowles described role playing as an effective method of gaining understanding of problems in human relations.



## Program Development

### *The Logic Model*

The Logic Model (McCawley, 2009) for program planning and evaluation will provide a framework for the assessment, planning, implementation and evaluation of this program. The Logic Model consists of six sequential phases, which illustrate a cause and effect relationship. The six phases include: (1) the situation, which is the problem to be addressed; (2) inputs or resources available; (3) outputs including activities, services; (4) outcomes which are the results or changes that take place; (5) assumptions, the group's beliefs about the program; and (6) external, which represent the environmental factors that could influence the program action (University of Missouri Extension, 2008). An illustration of the Logic Model is presented next (see Figure 2).

## Logic Model

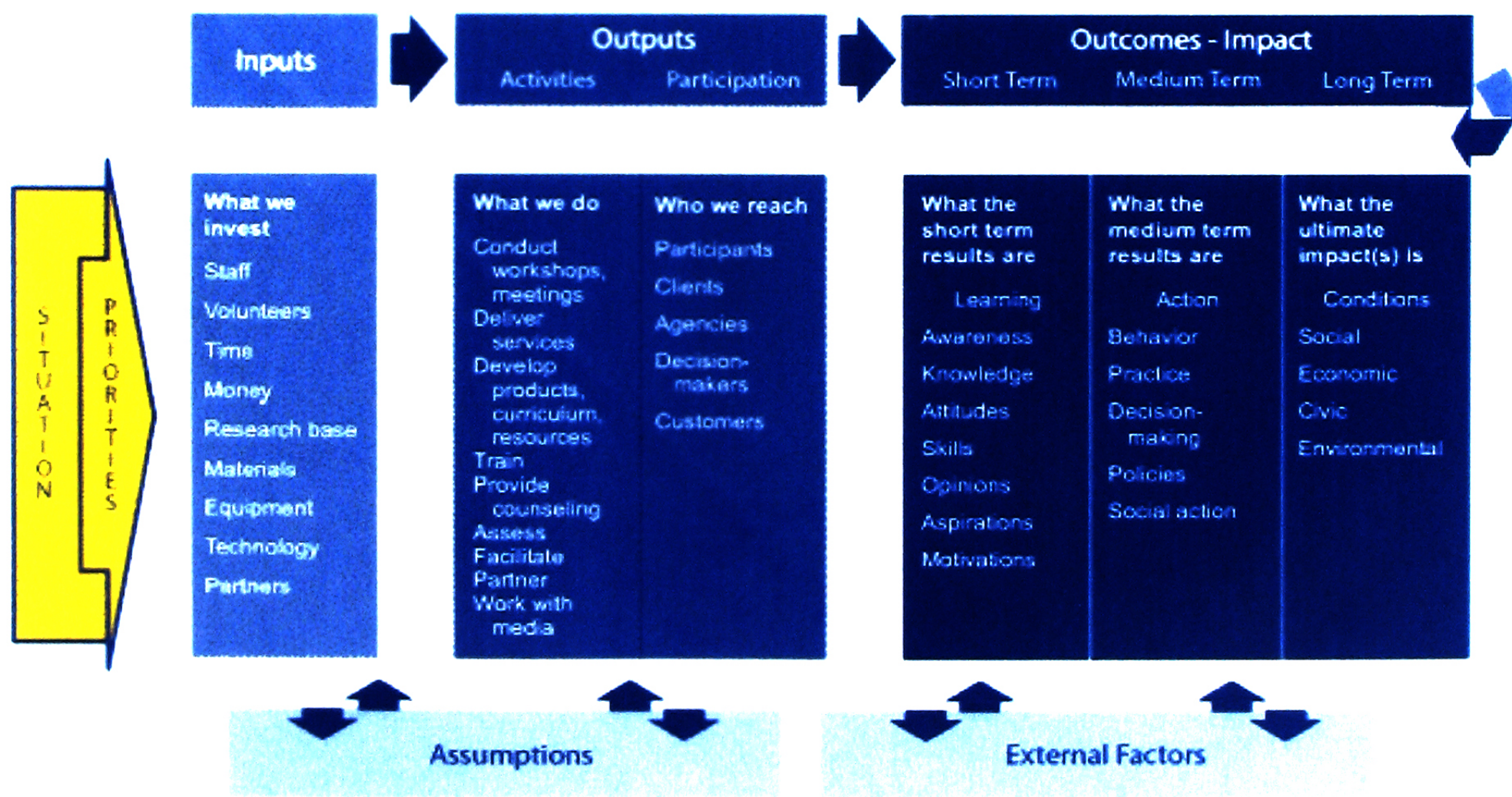


Figure 2. The Logic Model.



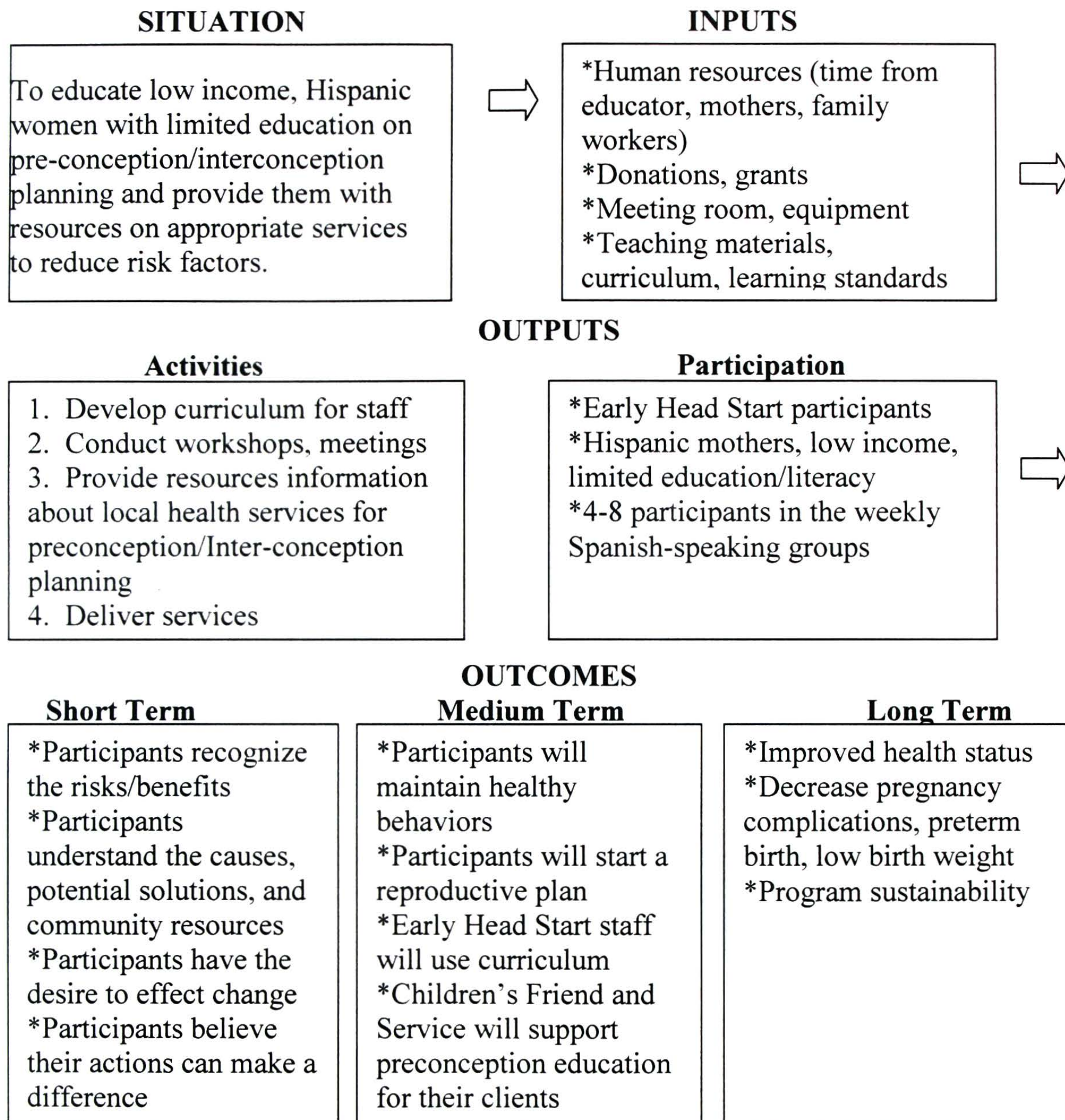


Figure 3. The Logic Model applied to the preconception program planning

This model was used to guide the process of program planning, implementation, and evaluation. The model calls for systematic thinking and planning to better describe programs, which was helpful for key stakeholders in understanding the program's concepts and approach. The above illustration (Figure 3) depicts the application of the Logic Model to the program.



### *Needs Assessment*

The development of a preconception program for mothers involved in the Early Head Start program at a social service agency located in the city of Central Falls was aimed at addressing the priority needs and concerns of this community. The Early Head Start program works closely with the neediest families in Central Falls. To qualify, the women have to reside in the city, have a low income status, and be pregnant or have a child three years old or younger. A comprehensive needs assessment, based on an adaptation of the community-as-partner model (Anderson, E.T. & McFarlane, J., 2008) was completed. The community assessment wheel which depicts the active relationship between different aspects of the community to health promotion, was the framework used for the assessment. These aspects of the community include the community's economics, communication, recreation, physical environment, education, safety and transportation, politics and government, and health and social services. For the purpose of the program development, selected aspects identified as most relevant were assessed, including the city's economy, education, health as it pertains to mothers and newborns, and social services.

*Central Falls economy.* The program targeted Latina women who were residents of the city of Central Falls. Central Falls is known for its small size and high population density. The city is composed of predominantly Hispanic residents, most of whom are from socially disadvantaged backgrounds. The median income of households in Central Falls is only \$22,628 compared to \$ 42,090 in the State of RI (Rhode Island Kids Count Factbook, 2009). As of December 2009, Central Falls' unemployment rate was 13.8 as



compared to the State's rate of 12.9 (Department of Labor and Training) The city has also the highest percentage of children under six living below poverty of 42.7% and one of the highest percentage of infants born to single mothers of 48% throughout the State.

During 2003-2007, the city had the highest teen birth rate of 98.1 per 1,000 girls ages 15 to 19 (Rhode Island Kids Count Factbook, 2009).

*Education.* Low income and minority students in Rhode Island and the U.S. are at greatest risk for dropping out of school. The core cities have an overall graduation rate of 74% compared with 90% in the remainder of the State (Rhode Island Kids Count Factbook, 2007). Central Falls has a high number of people with less than a 9<sup>th</sup> grade level education and without a high school diploma, 24.3% and 26.6% respectively (U.S. Census Bureau, 2000). During 2003-2007, the city also had the highest percentage of births throughout the whole state to mothers with less than a high school diploma (36%) (Rhode Island Kids Count Factbook, 2009).

*Health of Hispanic mothers and newborns in Central Falls.* Hispanic immigrants in the State face wider ethnic and racial disparities. Hispanic women are at risk and are more likely to give birth to preterm and low birth babies. During 2003-2007, Central Falls was close to the State in the percentage of preterm births, 11.6% to 12.05% respectively (Rhode Island Kids Count Factbook, 2009). The U.S. Healthy People 2010 objective (USDHHS, 2000) is to decrease this percentage to 7.6%. With respect to low birth weight infants, the city had a percentage of 6.5% as compared to 8.1% in the remainder of the State (Rhode Island Kids Count Factbook, 2009) The U.S. Healthy People 2010 objective (USDHHS, 2000) is to decrease this percentage to 5.0%. In



addition, Central Falls has one of the highest percentages of women with delayed prenatal care (14.2%) and one of the highest rate of infant deaths at 8.4 infant deaths per 1,000 births (Rhode Island Kids Count Factbook, 2009).

*Social services.* In 2008, 14% of Central Falls' families received cash assistance and 82% received food stamp benefits through the Department of Human Services (Rhode Island Kids Count Factbook, 2009). These two numbers are on the rise due to high rates of unemployment coupled with recent restrictions in eligibility requirements.

Undocumented mothers and children do not qualify for this type of assistance, thus resulting in increased poverty and vulnerability (Rhode Island Kids Count Factbook, 2008).

*Support for the program.* The evidence presented in the needs assessment demonstrated that Hispanic women of childbearing age living in Central Falls could greatly benefit from preconception planning education. The social service agency where this program took place supported this hypothesis. The agency is a nonprofit organization providing a wide array of services to vulnerable families living in the core urban cities of the State. Some of those services include child welfare, family support, mental health, and youth development. Part of their mission is to provide services to Rhode Island's neediest and most at risk children and families in an attempt to improve their well being, development, strengths, and supports. Locally, they work toward serving the needs of the vulnerable families living in Central Falls by providing educational and parenting programs and by offering resources and supports. The administrators, after several discussions, realized the increasing incidence of low birth



weight and premature babies occurring within this population. In addition, the agency established a new therapeutic childcare center in Central Falls, which was established in 2009 due to the many needs of the State's children. Subsequently, administrators at the institution agreed that additional teaching on healthy behavior choices and risk factors before pregnancy for the Latina women clients would be beneficial. They were very supportive and enthusiastic about this project.

*Enabling factors.* Some of the enabling factors included that the women knew of the weekly groups and were familiar with them. The women in the Spanish-speaking group of the Early Head Start program meet weekly for two hours as part of the Early Head Start program. This was a successful part of this program at the institution. The women met to discuss child development and stimulation for one hour and in the remainder of the time they discussed various health topics. This student and program manager implemented the program in the last hour of the group meeting. Some of the programs' educational topics were derived from the March of Dimes' preconception risk reduction guidelines including folic acid, smoking and drinking alcohol during pregnancy. The March of Dimes identified these focus areas related to preconception care, which have evidence to improve pregnancy outcomes (March of Dimes, 2010). The participants shared common social and cultural characteristics in that they were in the same age range of 18 to 45 years old, females living in the same community, immigrants to the U.S., of Hispanic origin, spoke the same language, and were mothers to young children.

The family support workers involved with the target group were Hispanic, spoke Spanish and were familiar with the women. The program manager and program



developer, who was a bilingual, bicultural Registered Nurse working for one of the institution's maternal child health program for seven years, provided quality leadership and role modeling needed to support this program. The program manager anticipated a high retention rate and comfort level because the program was presented in the participants' native language of Spanish. All the educational materials were also in Spanish, and the family support workers assisted the program manager during each session. Via the letter and discussion, potential subjects understood that their decision to participate was voluntary and totally up to them.

*Barriers.* Transportation and daycare barriers had already been addressed since they were both provided by the agency at the time of the program offerings. The participants' ability to understand what was discussed and their ability to read the written material distributed were planned for; the printed materials, including the surveys, were developed at a 6<sup>th</sup> grade level and were reviewed by similar participants of the program. The possibility that women would be unwilling to share information or to participate in the pre or post surveys for various reasons was also considered. The program developer planned to provide the discussions with respect, confidentiality and cultural humility. Lowenstein, Foord-May, and Romano (2009) noted the importance of respecting the client's deep cultural knowledge and asking questions in order to create opportunities for learning and dialogue. The health message during the advertisement of the program was scrutinized by adding an emotional component in regard to planning a healthy pregnancy. This was purposely planned because it is not an issue that generates high levels of



discussion or attention in this population and the women may have other competing demands.

*Resources needed.* In order to offer the program and successfully recruit the women involved in the Early Head Start Spanish group, marketing of the program was needed. The principles of social marketing were used to advertise the program. Using the ‘four Ps’ of social marketing (Issel, 2009), the *Product* was the educational session about preconception planning for Latina women in the Early Head Start program. The *Price* for the program was that it was free of charge. The *Place* included the group meeting room at the chosen institution in their satellite office in Pawtucket. The *Promotion* that took place was the distribution of IRB approved informational letters provided by the family support worker during her scheduled weekly home visits with the women of the group.

Before the implementation of the program, the program manager ensured the support from stakeholders at the institution, including the Early Head start manager, supervisor, family support workers, director of programs, and the health manager. They provided some feedback on topics for discussion such as lead, nutrition, and HPV/influenza vaccines. Their comments were then used to tailor the program. The program proposal was reviewed and approved by the agency’s quality assurance committee. Approval from the Institutional Review Board at Rhode Island College was also granted. The educator ensured that all the physical items needed were planned for, including meeting place, transportation for participants, DVD player, approval for the use of copier, printing machines, storage space for surveys, and educational materials.



The agency had equipment accessible, a large meeting room, and nearby daycare area, all of which were available to conduct the sessions. The presenter gained the agency's approval to use all the physical items needed. There was no projected revenue to be generated from this program. Anticipated fixed costs such as rent and salaries of staff were included in the budget. Some variable, minimal costs included expenses related to copying handouts and educational materials as well as light refreshments for the participants. No additional funds were needed.

In addition to the formal needs assessment, the author's personal experience with this group of women in this community was a catalyst for the development and implementation of such a program. Throughout the seven years of community nursing experience, this author recognized the obvious lack of knowledge about preparation for pregnancy in this population. Most of women were aware of the importance of prenatal care, but very few understood and knew about taking care of themselves before conception. It was clear that this program was needed in order to teach these women about the prevention of negative pregnancy outcomes by promoting healthy behaviors.

#### *Program goals, objectives, and content overview*

The main goal of this program was to increase awareness amongst Latina women about the importance of being healthy before and between pregnancies. This program also aimed to increase the awareness of health and social services in the community. Knowles Principles of Adult Learning (Knowles, 1959) were used to appropriately target the learning styles of Latina women ages 18 to 43. A secondary goal was to foster empowerment by educating and discussing strategies for self-management, and skills to



obtain the services needed. The short term goals included for the participants to be able to: recognize the issue of the importance of preconception health promotion; understand the causes of negative pregnancy outcomes and how to prevent them; and identify pertinent community resources. In addition, the program aimed for participants to have the desire for change and to believe that their actions can make a difference.

The overall objectives of this innovative program are illustrated in Table 1. These objectives served the needs of participants by presenting them with achievable goals and recommendations for behavior changes to improve the women's preconception health and reduce risk factors for adverse pregnancy outcomes.

The program had four key attributes which were predicted to contribute to its success. It was based on population level data and was implemented with women already engaged in the Early Head Start program at Children's Friend in Central Falls.

1. It was multidimensional, addressing health, behavioral and social risks for preterm birth and low birth weight.
2. It provided the participants with useful tactics and abilities to search for and enroll in health and social programs to which they are entitled.
3. It was offered in a group setting rather than one to one sessions. As it is suggested by Lowenstein, et al., "groups offer an effective method of teaching a variety of topics in health promotion and health education" (p. 129).



Table 1

*Program Objectives, Content, Methods, and Evaluation*

<b>Objectives</b>	<b>Content</b>	<b>Method</b>	<b>Evaluation</b>
To effectively educate the women in the EHS program about selected preconception health and behavioral risk factors. To successfully meet the short term goals of the program.	Pregnancy conception: Nutrition Mercury/lead Influenza vaccine/HPV vaccine Smoking, alcohol Exercise Stress reduction	Didactic (10-15 min. Discussion/interaction (open-ended, closed-ended questions, myths clarification). Handout. Hands on activities (read food labels). Pre and post test.	85% of the women in the group to be able to explain and put in their own words about behaviors and strategies to maintain a healthy lifestyle prior to conception. Also, increased test scores at the end of each session.
The women in the group will be able to identify healthcare services in the community and strategies to navigate the system and overcome barriers in order to enhance their health behaviors before pregnancy and minimize their behavioral risk factors.	Contact information about local health centers, WIC offices, Department of Human services and BVCAP local offices.	Information will be included in the handout that will be distributed to participants. Discussion/role play. Pre and post test.	85% of the women in the group to have increased awareness of available health and social resources useful in preconception planning and increased test scores at the end of each session.

*Educational program implementation*

Prior to conducting the program, the educator obtained approval from the Institutional Review Board at Rhode Island College and from the institution's quality assurance utilization review committee (QAUR).

*Sample.* The program targeted 8-12 Hispanic women of child-bearing age who were willing to voluntarily participate. The participants were involved in the Early Head Start



Program Spanish-Speaking Group in Central Falls. To be eligible to participate in the program, a woman had to be at least 18 years of age and involved in the Early Head Start Program at the chosen institution located in Central Falls, RI.

The recruitment occurred through an IRB approved informational letter (Appendix A) about the program that was distributed by the family support worker to potential participants one week before the program was to begin. The informational letter was also distributed on the first day of the learning session to include those participants who did not previously receive it. Informed consent (Appendix B) was obtained via the informational letter from all participants prior to each learning session.

*Setting.* The program took place in a meeting room at one of the satellite offices of the institution. The women already came voluntarily to weekly two hour group meetings at this site conducted by their respective family workers. There were currently two family support workers facilitating the Spanish-speaking weekly groups. They assisted in publicizing the program and encouraging women to attend. During the weekly meetings, the mothers were engaged in an activity with their children for one hour in the meeting room, and then the children were moved to the daycare area for the second hour. During the second hour, the mothers engaged in learning activities including discussion, keynote speakers, and activities. The preconception education program was scheduled during this planned weekly group meeting time for the second hour of the meeting for four consecutive weeks.

*Program implementation.* The educational program was developed and presented by the author who worked closely with this community and who was also an employee at the



chosen institution. An interactive group discussion, role playing, and multimedia format were used to provide readable, culturally sensitive information and materials. No interpreters were needed. All printed educational materials and video were provided in Spanish. The materials used were targeted to not exceed a sixth-grade reading level. The educational materials were obtained from the March of Dimes, the Centers for Disease Control, the Rhode Island Department of Health and the National Network for Immunization Information websites, and the Rhode Island Childhood Lead Action Project. These materials were used as resources to guide program development, along with the literature and professional clinical experience of the developer. Materials from these organizations were also distributed as handouts to participants.

The content of the program by week is illustrated in Table 2. Content included information about nutrition and healthy choices, with special focus on folic acid fortified Hispanic foods. The program developer purposely structured content in the form of case studies and asked questions to guide the next week's content in order to empower participants. Some of those questions included what health and human services were available in their community and any barriers they encountered while applying for benefits. Information about lead and mercury dangers and safety measures was provided. The program also reviewed the importance of getting vaccinated with the influenza and HPV vaccines and area providers where they were available. A discussion about alcohol use, smoking before and during pregnancy, the importance of exercise, and stress reduction before planning to conceive were also reviewed.



Table 2

*Educational Program Plan by Week*

<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>
<p>*Introduction. Establish relationship rapport</p> <p>*Explore what the women know about preconception planning/their interests</p> <p>*Administer content specific pre-test</p> <p>*Discuss community health, social services, and strategies for dealing with barriers and navigating the system</p>	<p>*Content to discuss : nutrition exercise stress reduction</p> <p>*Group discussion/interaction</p> <p>*Feedback at the end</p> <p>*Administer content specific Pre-test</p>	<p>*Content to discuss : lead influenza/HPV vaccines</p> <p>*Group discussion/interaction</p> <p>*Empowerment strategies: role play (15-20 min)</p> <p>*Feedback at the end.</p> <p>*Administer content specific pre-test</p>	<p>*Content to discuss : mercury smoking/alcohol</p> <p>*Empowerment strategies: role play (15-20min)</p> <p>*Group discussion/interaction</p> <p>*Feedback at the end</p> <p>*Evaluation (verbal and qualitative)</p> <p>*Administer general post-test</p>
<p>Video (10-15 min). Discussion (20-30min) Pre-test (10-15min)</p>	<p>Discussion (20-30 min). Activities- Reading food labeling and using relaxation techniques such as deep breathing (10-15 min.) Pre-test (10-15min)</p>	<p>Discussion (20-30 min) Role play activity (15-20 min) Pre-test (10-15 min). EPA pamphlet: PROTECT YOUR FAMILY FROM LEAD IN YOUR HOME CDC pamphlet: TAKE "3 STEPS" TO FIGHT THE FLU</p>	<p>Discussion (20-30 min) Role play activity (15-20 min) Post-test (10-15 min) March of Dimes brochure on pregnancy planning and preparing: <i>ARE YOU READY?</i> Pamphlet on health/social service resources in the community</p>



According to the group's answers about resources, local health and social services information was provided and a discussion was facilitated about ways to navigate the system to obtain needed services. The Early Head Start family workers already known to the women were present for the duration of the four sessions and assisted in discussions and testing.

A short video from the March of Dimes entitled *DON'T U DARE* was played during the first week of the sessions. The video was in Spanish and used a young woman's experience on healthy lifestyle changes including better nutritional choices, exercise, and multivitamin use. Lowenstein et al. (2009) noted that technology offers the power to provide a better educational understanding for those with limited literacy and low health literacy such as this group.

The author's personal experience in working with this population and discussions with agency personnel prompted the use of open discussions, clarification of myths, and minimal use of technology. In addition, Knowles Principles of Adult Learning (Knowles, 1959) guided in planning the methods and activities for program delivery such as the hands-on activities, round table seating arrangements, and comfortable atmosphere conducive to learning. The program manager did not take notes nor conduct any type of recording during the sessions to avoid the perception of lack of attentiveness and presence by the participants. Process notes were completed after the implementation of each educational session. All information gathered was kept confidential, and all data was stored in a locked file. De-identified data was available only to the educator and to the faculty primary investigator.



*Pre and post-test instruments.* Pre and post-test questions (Appendix C-E, Pre-tests; Appendix F, Post-test) were developed by the educator in English and were then translated into Spanish. The family support workers assisted in piloting the test questions with some of their clients involved in the Early Head Start Program, but not involved in this program development. The questions were adjusted accordingly based on the feedback received by participants. The test questions were constructed to target key content presented during each weekly session and were developed for a sixth grade literacy level.

Each participant completed a pretest prior to the beginning of each of the first three sessions. On the fourth week, only the posttest was administered due to the conclusion of the sessions. The tests included closed ended questions that were targeted to the area of content and included questions about resources available in the community. Participants were instructed not to put their names on the tests, but rather to identify two randomly selected letters and place them on each test taken. This assured anonymity and allowed for comparison of pre-post scores. A posttest that was also developed for purposes of this program development was administered at the end of the last session in order to measure participants' post program knowledge. It included a summary of the same questions used before in each pretest as well as open ended questions regarding program delivery, content and suggestions for improvement, and additional topics.



## Results

A total of 12 participants attended the program. Attendance at the four sessions varied. One person attended all four sessions (8.3%). Half of the participants (50%) attended three sessions. The two Spanish family support workers requested to participate and since they met recruitment criteria they were included. One of them was pregnant, so to attend was of particular relevance.

The sample consisted of 12 Hispanic women aged 24-43 years living in Central Falls, RI. The average age was 31 years ( $SD=5.74$ ). The majority of the participants (60%) had only grade school education, with 20 % having some high school education, 10% having earned a high school diploma, and 10% with a college education. The combined median family income level was \$16,120 per year, with 80% earning less than \$22,000 per year, and 20% earning less than \$10,000 per year. In terms of marital status, four reported being married, one divorced, one widowed, and six single.

All participants were mothers of one or more children under three. Only two women in the group expressed the desire to have another child in the future; two of them had sterilization surgery, one was pregnant and the remainder had no plans for future pregnancies. With regard to health status variables, 90% reported being in good to excellent health, and 10% reported having poor health. In terms of prevention and health maintenance, only 50% of participants reported having a primary care physician and only 30% reported having regular checkups. In addition, only five of the 12% reported having planned their pregnancies. All participants reported getting prenatal care with their previous pregnancies.



Table 3

*Participant's Pre-test Scores (%) for Each Session and Post-test Score*

Participant	Pre-test wk 1	Pre-test wk 2	Pre-test wk 3	Post-test
1	100	100	-	100
2	33	-	80	82
3	-	100	100	82
4	-	33	-	82
5	-	-	100	100
6	-	-	100	100
7	-	100	-	100
8	100	66	-	100
9	-	66	100	100
10	-	-	40	-
11	100	66	100	100
12	100	66	80	-

*Note:* Dashes indicate no score

None of the participants had ever heard about preconception care nor received this type of care prior to becoming pregnant.

The overall pretests and posttest scores are demonstrated in Table 3. Considerable improvement was displayed by most participants. Week two content seemed to be less comfortable for the group since the scores were lower than any other week. At the end of the sessions, all of the participants scored well on the posttest. Individually, the scores



were reasonably better than what was anticipated. As noted on Table 3, there are some weeks where scores were very low. Particularly, participants 2 and 4 had very low scores on the pre-test, but had an increase in the post-test. Similarly, participants 8, 9, and 11 had low scores in the pre-tests, but did markedly well on the post-test.



### Program Evaluation

To guide the evaluation process, the Logic Model's (McCawley, 2009) short-term outcomes component was applied. The process of delivering the program and its predictable effects on the target population were measured.

#### *Process evaluation*

The process evaluation is intended to systematically assess the delivery of the program with the central focus on the users of the program. All four educational sessions occurred in a timely manner. All the content was covered and active participation was attained. Interactive exercises such as practicing deep breathing, reading food labels, and role play practice were well received by participants. At the end of each session, the participants had the opportunity for questions. Most requested further discussion and information on topics pertaining to the HPV/influenza vaccines, lead abatement, and health service resources. Their comments were always positive, and participants requested that sessions run longer than four weeks and that there be more time for discussion.

During the last session, in addition to the post-test, participants completed a five question survey to evaluate the program overall. These questions were designed to estimate the appropriateness of the program delivery, any suggestions for improvement and changes, and what participants liked about the program. Useful qualitative information was obtained from answers to the open-ended questions on the post-test. The participants offered similar comments on the evaluation of the program and about the overall benefits of the program. Also, the participants had an opportunity to provide feedback for improvement on program delivery and on the program's content.



Table 4

*Program Evaluation Selected Comments Made by Participants (N=8)*

QUESTIONS	ANSWERS
What did you like about the program?	Good information and sharing of ideas Liked everything Liked the presentation that was in Spanish Straightforwardness
What would you change?	No change More time More on clarifying myths and old beliefs More sessions
Another topic of discussion you would have liked?	Internet resources Birth control methods Talk more about teenagers Breast problems HIV/AIDS
Can you name something you learned for a healthy pregnancy?	Prenatal vitamins before getting pregnant Eating healthy and changing bad habits Physical exercise Taking care of ourselves and our family
Did you like having a Hispanic presenter?	All agreed on yes Was able to understand better Felt comfortable

Table 4 provides details of the open ended questions and selected examples of comments made by the participants.

Participants concluded that all the topics discussed were important and relevant.

Based on the process notes taken by the program developer shortly after each educational session, information about group dynamics, individual questions, and comments were identified. The participants expressed they had gained new knowledge mostly about a healthy pregnancy, nutrition, and exercise. From the perspective and the observational



notes of the program developer, most of the participation also took place during these discussions. The women seemed more interested in these topics and had more questions. One woman in particular expressed feeling guilty for the bad choices she had made. She told the group about her daily intake of fatty foods and lack of exercise. The rest of the women expressed sympathy and offered suggestions. Many admitted to their negative lifestyles and verbalized the need for change and motivation based on what they had learned.

Besides acquiring new knowledge, the participants acknowledged the positive changes needed in their daily lives and the skills needed to accomplish them. Marked improvements in their awareness and attitudes about healthy choices for pregnancy planning were noted. For example, during role play, one of the scenarios included ways to exercise at home. Many of them reported discouragement from any outside activity due to the cold weather. At the end of the discussion, ideas such as housework and walking up and down the stairs seemed amenable and appealing to the women in the group. Another example was that the women were attracted to the ideas suggested in regard to strategies that could be implemented when dealing or communicating with a physician's office or human service agency.

### *Outcomes*

The outcome evaluation measured the program's intended effects of increasing knowledge of good health prior to pregnancy to the program participants. Program delivery activities took place according to plan. Due to the nature of this program and limitation in time, only the short term goals were measured and assessed via the pre-and



post-tests. The short term goals included for the participants to be able to: A) recognize the issue of the importance of preconception health promotion; B) understand the causes of negative pregnancy outcomes, preventive measures, and community resources available for health and social services; C) verbalize the desire to effect change; D) believe their actions can make a difference.

A post-test was conducted after the last presentation in week four. There was an overall improvement in the posttest scores. The pre-post tests were used by the program manager to measure the intended effects of preconception planning education on recipients. According to the testing results, the participants gained knowledge about selected preconception health and behavioral risk factors. Increased awareness on nutrition and exercise were markedly prominent. The participants reported lack of transportation, interpreter, and daycare impediments when going to medical appointments or community social agencies. They also suggested ideas to resolve them such as bringing an interpreter or requesting one, asking neighbors and friends to babysit, and requesting late day appointments. The agency will be notified of the findings and recommendations for enhancement. If feasible, further evaluation related to the more long term goals of the program will be recommended.

Additional feedback was requested from the Early Head Start family workers. The two family workers present throughout the duration of the program added meaningful comments and suggestions. One comment was about the importance of this population having access to this knowledge since their perception was that Hispanic women frequently do not plan their pregnancies. More time to review additional risk factors were



recommended as beneficial as well as more information on the consequences of negative behavioral choices. Another comment was that not all the information provided was applicable to all of the women such as smoking and alcohol. The educator was commended for stimulating the participants to ask questions and discuss their concerns.



### Summary and Conclusions

As evidenced by the literature, the need for further education on pre-pregnancy health is vast, especially for the minority population susceptible to negative birth outcomes. In 2006, the Centers for Disease Control *Morbidity and Mortality Weekly Report* confirmed evidence showing that preconception counseling is rarely provided, even for women at high risk of negative pregnancy outcomes. The March of Dimes (2010) has identified preconception counseling as a critical area of interest to Hispanic women. Hillemeier et al. (2008b) found that women with less educational attainment who are single parents and are of poor economic status were less likely to receive pregnancy planning counseling. Hulme et al. (2003) found that the health promotion interventions most in need among Hispanic adults included physical activity and health responsibility. Elsinga et al. (2008) proposed preconception counseling for women of childbearing age after their study found the women who received this intervention had an increase in knowledge and positive changes in their behavior prior to conception.

The main purpose of this program was to increase awareness among Latina women about the importance of being healthy before and between pregnancies. The participants of this project were women with limited educational background, and low socioeconomic status, and most were single parents. The majority reported receiving very little preventive and therapeutic care, including pre-pregnancy care, which generally influences pregnancy outcomes (Centers for Disease Control and Prevention, National Center on Birth Defects and Developmental Disabilities, 2006).



The women participated in a four week educational program. In one hour of interactive sessions, the women received education on a wide array of healthy behaviors desirable before a pregnancy. The educational topics included preconception counseling on nutrition and physical activity, stress reduction, mercury, lead, influenza and HPV vaccines, alcohol, and smoking. These topics were integrated with knowledge about community health and social services, strategies to apply for and engage these services, and a discussion about common barriers in the application process. Group activities included role playing, reading food labels, and breathing exercises. Participants' knowledge of the health topics was evaluated by pre-post testing, and scores were improved after implementation of the program. Despite inconsistent attendance in all the four sessions and low pre-test scores in week two, the post-test scores were increased overall.

With the implementation of this program, objectives were met with both accomplishments and challenges. Some of the challenges included inconsistent number of participants each week, resulting in reduced attendance and participation in discussion at each session. There was variation in the number of participants attending all four sessions, thus creating difficulties when comparing pre-test to post-test data. Only one woman attended every session. The family workers reported having noted this inconsistency of attendance at the group sessions as being usual for these women. The program developer did not foresee lack of attendance as an issue since the agency provides door-to-door transportation services for the women and children to the site and



childcare while the women meet separately during the group session. Scheduling conflicts should be explored to enhance regular attendance.

In addition, some of the pre-post test questions were left unanswered, especially those that required writing or explaining an answer. The program developer anticipated possible low response on these questions, but made the decision to use them. Also, on questions with an 'all of the above' response, there seemed to be confusion as to how to answer these questions. Many of the participants checked off the individual choices rather than 'all of the above.' The program participants overall scored well on the pre-tests, except for those on week two. Though attempts were made to pilot the pre- and post-test, further examination of the test questions would be indicated before replication of the program. Test results indicated that the content included in week two (lead, influenza, and HPV) should have been emphasized more in this program and should be included in future educational programs or campaigns. Additional questions on the post-test should be included about the participants' preference of having access to health care professionals in their role as educators.

Even among this seemingly homogeneous group of women, there were differences in learning styles. Based on body language cues, two women were unable to understand the written materials. They were open to help, but questions had to be simplified in order for them to understand and provide an answer. These women participated during group by sharing their experiences, but did not ask questions. It may be postulated that these women could have benefited from individualized instruction in addition to the group experience to assure that they fully comprehended the content. This program was offered



to participants who already had children, and many of them expressed no interest in having another child. Learning preconception planning topics might not have been relevant or appealing to them.

The participants and the family support workers responded positively to the educational program offered, felt additional time should have been allotted, and believed that it should continue. A strength was that this program was comprehensive in providing appropriate preventive health educational services to Latina women. The core components of each educational session were designed to impact this group of high risk women by generally promoting healthy living and preventive preconception care. Open group discussions about individuals' past life experiences with their pregnancies, and their challenges to a healthy lifestyle, underlined further proactive education targeted at preconception planning. With a program such as this, one hopes to infuse these women's lives with education, empowerment, and positive messages about health in order to improve their health and the health of their future children.

#### *Agency implications*

The program implemented has the potential to be easily replicated by the institution where it took place. This institution serves the neediest in RI and provides essential services to improve the community's well-being. As attested by the program participants, this community still lacks preconception and inter-conceptual care services. High risk women living in Central Falls are generally unaware of the services or do not know how to access them. Women who express interest in having another child should be targeted, and it should be part of the criteria for participation. The institution



would benefit from starting a discussion about expanding access and availability of preconception and inter-conceptual planning education to staff and clients. Expansion of the program to non-Spanish speakers and members of other programs, all of whom are at risk, may also be beneficial. Flexible schedules as determined by the institution's clientele should be recognized and adapted. Development of relationships and collaborations with other community-based organizations would heighten participation and program success. The objective, content, and methods of the curriculum, which were evaluated positively by the participants, should be instituted as a model for this program and other similar agencies. In particular, the participants noted special interest related to the discussions pertaining to nutrition and exercise because of their value to body image. The curriculum should be expanded to include contemporary issues such as Hepatitis C exposure by tattoos and body piercing. Also, individualized instructions should be available to those participants who request it and do not feel comfortable in group settings. This innovative, community-based initiative would be a valuable addition to the current services being provided to further improve the welfare of families and children.



## Recommendations and Implications for Advanced Nursing Practice

### *Recommendations*

Evidence indicates that there are many benefits to proactive education and anticipatory guidance targeted at preconception planning. Recommendations for policy and education are addressed in order to create a challenge for health care providers to develop creative new approaches towards preventive preconception care.

*Proposed public policy changes.* One major difficulty affecting this population includes changes with the local health care environment resulting from the current changes to Medicaid coverage. An issue brief by Trust for America's Health (2008) revealed the delay, only after a positive pregnancy test, in insurance enrollment and prenatal care to the women eligible to Medicaid. Minority women were identified being less likely to receive quality care as well.

As described by Johnson (2006), changes in the Medicaid policies are needed to increase health insurance coverage to low-income women of childbearing age. Title X is the only federal program existing to provide family planning and reproductive health services to low-income women (USDHHS, 2009). The extension and enhancement of these services to include preconception care can increase the number of low-income women accessing family planning services. In RI, according to the Guttmacher Institute (2006), Title X supports 17 family planning clinics in the state serving 13,680 RI women. It is estimated that 146,340 women are still in need of family planning and reproductive health services.



In addition, RI's Medicaid managed care program poses challenges to the local health care environment. The program provides restrictive coverage to the undeclared population of women in the state. These women can only get coverage from the time of a confirmed positive pregnancy test to 60 days post partum. After that, 'extended family planning' services are available to them for a period of 26 months, leaving a gap between the time prior to conception and two years after delivery (U.S. Department of Health and Human Services, Health Resources and Services Administration [HRSA], 2003). This deficiency in the health insurance system can contribute to limited access to preventive services prior to pregnancy, thus affecting the health outcomes of the mother and newborn.

*Educational strategies needed.* Since the current managed-care system and budget deficits influence the cost-conscious health care in the State, reimbursement for preconception care visits may not be an option. A proposed resolution is to integrate preconception services into other programs. Educational tools such as the March of Dimes' preconception planning curriculum, *Becoming a Mom/Comenzando Bien* for health care educators and providers, has the potential to be easily adopted. This program could be implemented in health centers, clinics, schools, or as a component of other case coordination programs such as the Early Head Start. Planning for ample time and longer duration were indicated by this program's findings for the success of this promising strategy.

The program findings also suggested the need for additional health promotion campaigns focused on lead, influenza, and HPV vaccine. Evidence demonstrates that



preventive campaigns such as the March of Dimes' strong folic acid and birth defect prevention campaign launched in 1998 are beneficial and far reaching. In 2004, a national survey by the March of Dimes identified an increase of folic acid vitamin consumption by American women (March of Dimes, 2004). This message was effective because of the emotional message of having a healthy baby and preventing birth defects. Most of the campaigns associated with lead, for example, have been geared towards children and pregnant women. Therefore, the health message in this case has to focus on the benefits and recommendations prior to pregnancy.

#### *Implications for Advanced Practice Nursing*

The nurse plays a vital role in the development and delivery of preconception planning education. The nurse's presence in various health care settings enables this education to extend to a large target group. Outreach and access efforts to preconception education could also be part of the nurse's role working in primary care and in the maternal child health area. But in order to be able to effectively reach the diverse, vulnerable population a nurse would have to possess cultural humility and sensitivity. Culturally and linguistically competent nurses from different backgrounds are needed in order to appropriately tailor nursing care and interventions to the population's characteristics (Montgomery & Schubart, 2009). These skills are increasingly important with the current growth of the minority population, requiring nurses to provide health care across cultural boundaries. The participants of the program were generally pleased that the presenter reflected their own cultural background and spoke their native language.



By understanding important socioeconomic and cultural differences among women of childbearing age, advanced practice nurses can improve the development, design, delivery, and the promotion of preconception planning services or programs. The need to develop these types of programs has been recommended by the CDC (2006) in order to promote access and utilization of this critical intervention. Sanders (2009) discussed the multifaceted contributions of nursing to the success of adopting preconception care interventions. The authors considered nurses as having the ability to assess for preconception risks, to provide appropriate preconception services, and to make referrals as needed. Nursing leaders are instrumental in instilling a focus on program quality, assurance of program participation, influence on policy development, and incorporating the interest of stakeholders. Collective efforts continue to be needed as strategies for preconception planning are developed. Additional challenges including health literacy, cost, and access must be addressed. A major paradigm shift to adopt preconception planning practices is critically needed to improve maternal and infant health outcomes in the future.

The current changes facing the health care system in the U.S. has created new challenges for advanced practice nurses. The expectations of providing quality service within a system that is mandating more economy and efficiency have been key components to think beyond prenatal care. Preconception planning and care programs have been recognized as producing cost-effective, significant returns. Data from the March of Dimes (2009) showed that nationally, the average first year medical costs are ten times as high for preterm infants (\$32,325) as compared to full term infants (\$3,325).



These statistics clearly show that the upfront investment in preventive services such as preconception programs produces long-term, system-wide savings. Additionally, incorporating advanced practice nursing skills and experience brings a very high quality of care to the community and society as a whole. Advanced practice nurses are exemplars in moving forward and advocating to meet the needs of the population in the best possible way.



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APPENDIX A

Informational Letter





CARTA INFORMATIVA

Nos gustaría pedirle su participación en un programa denominado: Desarrollo para un plan de estudio y el Programa Piloto de la planificación y cuidado de salud antes de un embarazo para las latinas. Este programa consiste en determinar cuanto usted sabe sobre la importancia de cuidarse antes de salir embarazada.

Si decide participar, nos reuniremos en cuatro ocasiones y tendrá que llenar una encuesta por escrito en cada reunión. Cada una tiene 10-15 preguntas que nos gustaría que conteste y le tomara unos 15 minutos de su tiempo. Estas encuestas serán lo único que pediremos de usted. Las preguntas en las encuestas no deberían de causarle ninguna inquietud.

Usted es libre de elegir si desea participar en este programa. Si usted decide no participar, no afectará los servicios que recibe en el programa de Early Head Start. Además, si usted decide participar, usted es libre de cambiar de opinión en cualquier momento, y retirarse.

Al llenar estas encuestas, usted no va a beneficiarse personalmente. Esperamos que la información que obtengamos de estas encuestas, la podamos usar en el futuro para la mejora de este programa.

Nadie va a poder saber que usted a participado en este programa. Ninguna de la información que usted proporcione va a tener su nombre o cualquier otra información que la identifique personalmente. La información que recojamos va a ser guardada con seguro en mi oficina. Las únicas personas que tendrán acceso a esa información van a ser yo y mi consejera en la escuela. Si surge cualquier problema de este programa, el comité de el Rhode Island College, que supervisa los proyectos de investigación, va a tener que mirar esta información pero ellos no van a poder obtener su información personal. Esta información va a ser guardada por lo menos tres años, después de lo cual será destruido en algún momento.

Si usted desea participar, entonces usted puede llamarme al 721-9259. Si usted tiene alguna pregunta acerca de las encuestas, o del programa en sí, por favor, póngase en contacto conmigo al 401-721-9259 o con la Dra. Joanne Costello al 401-456-9735. Si usted tiene alguna preocupación acerca de su privacidad o sus derechos como participante en el programa, por favor llame a Kevin Middleton al 401-456-8228.

Muchas gracias por su tiempo!

Esperanza Gutiérrez, RN  
Rhode Island College Escuela de Maestría en Enfermería

**Approved For Use**  
**Date** 11/13/09 - 11/12/10  
**RIC Committee on Human**  
**Participants in Research**



APPENDIX B

Informed Consent





CONSENT DOCUMENT

Rhode Island College

Curriculum Development and Pilot Program of Preconception Planning for Latinas

You are being asked to participate in a pilot program about preconception planning for Latinas and curriculum development. You were selected as a possible participant because of your current involvement with the Early Head Start Program at Children's Friend and Service in Central Falls, RI. Please read this form and ask any questions that you may have before agreeing to be in the program.

**Background Information**

The purpose of this program is to provide with basic knowledge about getting healthy before pregnancy.

**Procedures**

If you agree to be a participant in this program, we would ask you to do the following things: Completing 3 pre-tests and 1 post-test during your weekly groups with the Early Head Start family support worker for 4 consecutive weeks. Each test will probably take 15 minutes of your time. One test will be provided at each meeting. There are 10-15 questions we would like you to answer by completing each question and and/or choosing the right answer. These tests are the only thing we will ask of you.

**Risks and Benefits to Being in the Study**

There are no foreseeable risks with this program. There are no questions that should cause you any discomfort. Your taking part in this program testing is completely voluntary. If you do not want to complete the tests you are free to choose not to fill out the survey. Your completion of these tests may not benefit you personally. We are hoping these completed tests will provide information that will be helpful in the future use of this program. The tests from this program will be kept confidential. None of the information you provide will have your name or any number on it that will identify you personally.

The records of this program will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. Program records will be kept in a locked file, and access will be limited to the investigators, the college review board responsible for protecting human participants, and regulatory agencies. The original data will be destroyed within three to five years after the program has been completed.

**Voluntary Nature of the Study**

Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with Children's Friend and Service. There is no penalty or loss of benefits for not participating or for discontinuing your participation.

\_\_\_\_\_ Initial here to indicate that you have read and understood this page.



**Contacts and Questions**

If you have any questions about these tests or the program itself or about your rights as a program participant, please feel free to call me, Esperanza Gutierrez, at 721-9259 or Dr. Joanne Costello at 456-9570.

You may ask any questions you have now. If you have any questions later, you may contact us at the above phone numbers.

If the investigators cannot be reached, or if you would like to talk to someone other than the investigator(s) about (1) concerns regarding this program, (2) program participant rights, (3) program-related injuries, or (4) other human subjects issues, please contact the Chair of the Institutional Review Board by email ([irb@ric.edu](mailto:irb@ric.edu)), by phone (401-456-8228), or by mail: Chair of the IRB, c/o Office of Research and Grants Administration, Rhode Island College, Roberts Hall, 600 Mount Pleasant Avenue, Providence, RI 02908.

You will be given a copy of this form for your records.

**Statement of Consent**

I have read the above information. I have received answers to the questions I have asked. I consent to participate in this program. I am at least 18 years of age.

This consent is null and void after one year after CHPR approval.

Print Name of Participant: \_\_\_\_\_

Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_

**Approved For Use**  
**Date** 11/13/09-11/12/10  
**RIC Committee on Human**  
**Participants in Research**



APPENDIX C

Pre-Test Week One



## Pre-Test Week One

**WEEK 1**

## Nutrition:

1. The best way to get enough folic acid to help protect your baby from birth defects of the brain and spinal cord is to:

- A. Eat a banana every day
- B. Take a multivitamin with 400 mcg of folic acid every day
- C. Drink two glasses of milk every day
- D. Do nothing; most women get enough folic acid in their diets

## Exercise:

2. Some good choices for exercise before and during pregnancy include:

- A. Walking, swimming
- B. Jumping
- C. Running

## Stress Reduction:

3. Stress in my life during pregnancy can impact my baby in a bad way.

- A. True
- B. False

## Resources:

4. Are you aware of the clinics available in Central Falls where you can get checked for pregnancy?

- A. Yes
- B. No

If yes, do you know how to contact them?

5. Circle if you know where to go and apply for the following services:

- A. Heating assistance
- B. Food stamps
- C. Cash benefits
- D. GED/English classes
- E. Rent assistance



APPENDIX D

Pre-Test Week Two



## Pre-Test Week Two

**WEEK 2**

Lead:

1. Which are possible sources of lead?
  - A. Plastic bags
  - B. Paint and drinking water
  - C. Books, magazines

Influenza vaccine:

2. The “flu shot” is considered safe during any stage of pregnancy.
  - A. True
  - B. False

HPV vaccine:

3. It is recommended to get the HPV vaccine before pregnancy.
  - A. True
  - B. False

Barriers:

4. What are the most common problems that you experience when going to a medical appointment? (you can choose as many as you want)
  - A. Transportation
  - B. Daycare
  - C. Work/school schedule
  - D. Other (please name)
  - E. None
5. How do you solve these problems? Please write one sentence for each problem you experience (see #4)
6. What are some of the issues you experience when dealing to social service agencies? (you can choose as many as you want)
  - A. Translator not available
  - B. Long waiting
  - C. Phone calls not returned
  - D. Don't know how to fill out forms



- E. No issues experienced when dealing with social service agencies
  - F. All of the above experienced when dealing with social service agencies
7. How do you solve these issues? Please write one sentence for each problem you experience (you can choose as many as you want)



APPENDIX E

Pre-Test Week Three



## Pre-Test Week Three

**WEEK 3**

Mercury:

1. Does mercury exposure pose a risk in pregnancy?
  - A. Yes
  - B. No

Smoking:

2. The best time to stop smoking is before you get pregnant.
  - A. True
  - B. False

Alcohol:

3. Which of these should you avoid as soon as you think you might be pregnant?
  - A. Beer
  - B. Wine
  - C. Wine coolers
  - D. Liquor
  - E. All of the above

Strategies:

4. What are some good strategies when trying to contact a health clinic?
  - A. Be polite and courteous
  - B. If feeling sick, ask to speak to the nurse
  - C. Be clear about your preferences for appointment days and times
  - D. All of the above
  
5. What are some good strategies when trying to contact a social service agency?
  - A. Be polite and courteous
  - B. Bring interpreter if possible or request one ahead of time
  - C. Contact supervisor if unable to reach case worker
  - D. All of the above



APPENDIX F

Post-Test Week Four



## Post-Test Week Four

**WEEK 4**

Post-test included all of the above questions in the pre-tests. It also included the following program evaluation questions:

1. What did you like about the program?
2. What would you change?
3. Is there any other topic that you would have liked to have discussed?
4. Can you name something you can do or change to have a good pregnancy?
5. Did it make a difference to you having a Hispanic woman present this information?