The Value of Using a Prenatal Education Planning Model: Application to an Aboriginal Community

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Abstract

A conceptual model for planning adolescent prenatal programs was developed that anticipated future trends, was easily modifiable, and fostered community self-direction (Loos & Morton, 1996). However, the model's reliability with diverse groups in atypical settings required testing. Validation of its reliability focused on adolescent Aboriginal women living in an isolated northern community. Use of the model helped identify modifications in program design, implementation, and evaluation to meet the ethno-cultural, socioeconomic, and age-related needs differences of this population, suggesting that this model is an effective tool for program development.

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In Canada, interest exists in synthesizing available knowledge and research regarding a variety of health-related topics to facilitate cost-effective, comprehensive responses to complex health issues. In 1990, the Canadian government put forth an initiative to support this concept via the National Health Research Development Program (NHRDP).

In conjunction with the NHRDP initiative, the authors developed a data bank encompassing preconceptional/prenatal health promotion with diverse populations. Analysis of the holdings of the data bank indicated that three populations were particularly at risk in the preconceptional/prenatal periods. They included women who were poor, adolescent women, and women of cultural backgrounds other than the dominant one (Loos &

Morton, 1991). This analysis spawned an interest in planning a conceptual model for prenatal program development that could anticipate future trends and be adaptable to any community. Additionally, it was felt that the model should be easily modifiable to facilitate its use by national, as well as international health and educational professionals. Most importantly, it should foster community self-direction and provide for long-term health promotion behaviors. The outcome was the development of a conceptual model for adolescent prenatal program development (Loos & Morton, 1996). (See Table 1.)

Testing the Use of the Conceptual Model in Planning a Program

The next stage in development was to investigate the model's usefulness for planning programs with diverse groups, as well as the identification of elements of the model that might require modification. Adolescent Native women living in an isolated community, which is accessible by air, in northern Canada were chosen as the target group for this test. As Northern Native people are some of the poorest in Canada and since Native people's health is generally influenced by poverty

TABLE 1 Conceptual Model: Adolescent Prenatal Program Assessment

A. Identify target group(s), their needs, and related service gaps.	
• Utilize focus groups of pregnant and parenting adolescents to assess demographics and perceived needs.	
• Determine trends such as location (residence and school districts) and seasonal trends through retrospective obstetrical record review.	
• Survey present resources available to the adolescent including pre/postnatal programs and services.	
B. Identify resources for programming.	
• Contact health and education professionals, as well as relevant lay people(i.e., adolescent mothers).	
• Identify untapped resources, recognizing that programs incorporated within the daily schedule of a school have been particularly effective.	
• Share information about the potential costs and benefits of the proposed program with residential and business communities, requesting and securing support for items such as advertising, gifts, vouchers, and food.	
Plan	
• Identify participants.	
• Decide if partners, friends, and/or families will be included in all the sessions.	
• Identify a centrally located site, known and acceptable to the adolescents.	
• Approach city transit/volunteer bureau for transportation assistance.	
• Schedule sessions at times that do not conflict with school, work, or significant social and leisure events.	
• Establish a collaborative network of health care professionals and lay people both as guest speakers and student support systems.	
• Develop measurable objectives for later program evaluation.	
Implementation	
• Advertise through multi-media (i.e., television, radio, newspapers, television, school papers, community bulletin boards, fast food outlets, etc.).	
• Give media interviews discussing the program where possible.	
• Utilize a multi-disciplinary approach with community involvement.	
• Ensure the clients are supported psychologically and economically.	
• Utilize teaching strategies appropriate to psychosocial and cognitive development with emphasis on skills of immediate applicability and experiential learning.	
• Ensure teaching materials are both culturally and developmentally acceptable (in content and context) and at an appropriate literacy level.	
• Include early bird, childbirth preparation, and postpartum parenting classes in programs. Include participatory planning in classes, as well as a flexible class agenda.	
• Use a multi-media approach where possible.	
Evaluation	
• Base evaluation on measurable program objectives created in Planning Phase.	
• Use quantitative and qualitative methodology.	
• Consider appropriate times to evaluate participants (e.g., mid-session, last class, post-partum class, or baby shower reunion).	
• If utilizing an evaluation tool, ensure acceptable levels of readability, validity, and reliability.	
• Modify program based on evaluation and re-assessment.	

—"Addressing the needs of pregnant adolescents: Conceptualizing prenatal education in the context of research and practice," by C. Loos and A. M. Morton. 1996. *Journal of Perinatal Education*, 5(1), p. 35.

(Royal Commission on Aboriginal People [RCAP], 1993), these women represented all three aggregates identified in the research that led to the development of this model: They were poor, adolescent, and from a culture other than Caucasian, the dominant culture in Canada. This article will focus on the use of the conceptual model in planning an adolescent prenatal program for this target group.

Historically, Aboriginal people have been deprived and disenfranchised. Additionally, their needs have not been well served by the “fly in, fly out” approach of many researchers. Control research methodology usually lay in the hands of those living outside the Aboriginal communities. Therefore, in the emerging tradition of Participatory Action Research (Hagey, 1997), the progress of focus group selection, structure, and development was directed by the local people. In keeping with this process, the research team member who is also a member of the community was responsible for facilitating and guiding the focus group discussions. Primary Health Care strategies of accessibility and self-determination were used to select focus group participants (Declaration of Alma-Ata, 1984). Educational and Nursing Station¹ personnel, as well as band members and adolescents who were pregnant or young parents, participated through a variety of focus groups in exploring the “fit” of the model. Boone (1996) strongly affirms that “the involvement of community members in identifying health issues and seeking solutions to problems should lead to more effective and more appropriate health planning” (p. 461). Drawing from Critical Social Theory (Stevens & Hill, 1992), discussion within the focus groups addressed the criteria identified in each phase of the model so that the information exchange evolved through a process of inductive reasoning. Focus groups continued until the pattern of fit of the criteria to this population was understood. (See Figure 1.)

¹ Nursing Stations are medical clinics set up by the Federal Government to supply health care services to fly-in Native communities, usually of 500–2000 people. Nursing Stations are staffed by nurses functioning in the combined role of Community Health Nurse and Nurse Practitioner. Auxiliary staff such as interpreters and lay health workers are hired from the community. Additional medical personnel, including doctors and dentists, make scheduled visits and are available for phone consultations.

Figure 1 Northern Airstrip—Travel outside most communities is by air. Airports often consist of one unpaved airstrip to which pilots fly visually as there is no air traffic control.

Figure 2 Typical Street—Northern communities consist of a few unpaved streets lined with houses. Electricity is common, but homes are often heated by wood stoves, which are fueled by wood cut by each family from the bush around the community.

The Challenges

Native women of Canada's First Nations may have differing traditional beliefs and values that conflict with those held by Caucasian women. As the model is based on available literature, Caucasian beliefs and values are the general underpinnings of the model. Beliefs and values affect acceptance of and participation in health education and care. Unless educators understand the meaning of health and pregnancy within a specific culture and develop programs that in content and context embrace these meanings, they will fail to reach the population for whom the program is generated (Sanchez, Plawcki & Plawcki, 1996). It is important to emphasize, however, that the impact of ethno-cultural values and beliefs is often mediated by acculturation processes (Van Oss-Marin, Tschann, Gomez & Kegeles, 1993). Diversity among individuals in any cultural group must therefore be considered.

Geographic isolation creates problems for women of Aboriginal origin living on traditional land in isolated, fly-in areas. Limited access to health care, poor nutrition, lack of sufficient human resources, and environmental constraints such as the lack of appropriate solid waste disposal and a safe water supply, as well as adverse climatic conditions, are some of the variables that affect prenatal education. Diem (1990) stresses the interrelatedness of the above with mistrust of the health care system and its personnel, poor nutrition, limited education, unemployment, poverty, and differing social behaviors. To compound these problems, interventions by non-Native agencies worldwide have often been incongruent with traditional practices and have increased the women's disassociation from health care providers (Glover, 1986). As a result, women experiencing life on isolated traditional lands are most likely to be at increased health risk during pregnancy.

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Geographic isolation also has consequences for health care workers (Waddell, 1983). Lack of support and access to resources, as well as dependence on government bureaucracies that have little understanding of the need for health information that is culturally appropriate in both content and context (Canitz, 1990), may affect the ability of these health professionals to meet their clients' needs.

Communication patterns differ among and between both Native and non-Native groups, and as a result, misconceptions and misunderstandings can arise. For instance, Native Canadian beliefs about non-intervention and respect of personal autonomy, as well as cultural traits of taciturnity, are often misinterpreted. In addition, non-verbal communication is used more frequently and is often overlooked by non-Native health professionals. Patterns of communication also differ among different Native linguistic groups; thus, language is an important consideration for health educators (personal communication Margaret Meekis, Aboriginal nurse, July 1996).

Assessment

Demographics for the selected Native community and its people were determined through library resources and interviews with educational and Nursing Station personnel, as well as band members. This community is an isolated fly-in reserve, 216 miles from the nearest hospital. It has a population of approximately 2,000, of whom 1,697 are Registered Band Members, mainly OjiCree. The remainder are non-Native or belong to other bands. Single residences, which are generally overcrowded and poorly constructed, are scattered throughout the 17 square miles of land surrounded by lakes. Heating is supplied by generators and/or wood stoves. Most residences have telephones, as well as radio communication via community and national stations. Controlled water supply and solid waste disposal systems have just been completed. While schools on most reserves include only the primary levels, this reserve has schooling through high school graduation.

There are six churches on the reserve. The United, Mennonite, Pentecostal, Revival, and Full Gospel churches have Native ministers who live in the community. A priest visits the Roman Catholic Church every

third week, and Native lay clergy attend to parishioners' needs during his absence.

While most functions of the reserve are federal responsibilities, the provincial government handles others. A Band Chief and Council are elected by the people every 2 years.

The Nursing Station is staffed by a health director, nine nurses functioning primarily as Nurse Practitioners, two Native community health representatives (CHRs) trained in community health principles, two referral clerks, two employees of the Native Alcohol and Drug Abuse Prevention Program, two mental health workers, two housekeepers, and one transportation driver. The nearest doctor lives 1 hour away by air and makes routine visits every 2 weeks. A visiting dentist also attends the community but less often.

Travel around the reserve is by truck, snowmobile, boat, or foot. A small airstrip provides access to off-reserve destinations. There are no permanent roads out of the community although a winter road may be created over the snow and ice.

A small percentage of Native people are employed to administer the health, education, business, or economic functions of the reserve. However, most people have a subsistence level income from welfare, and some spend time in traditional pursuits such as fishing, trapping, and hunting.

While many have adopted non-Native foods, these

are interspersed with available Native foods. The most commonly used Native foods are moose, rabbit, duck, grouse, fish, beaver, and berries.

Recreational facilities include a community complex where bingo, dances, and sports take place. In addition, a hall belonging to the Roman Catholic Church is used for bingo and meetings. There is an indoor arena for ice hockey and skating, as well as three baseball fields. The school gym is used for school and community-based activities.

The Northern Store (formerly the Hudson's Bay Company) and two other stores sell limited selections and quantities of groceries that are costly as all supplies must be flown in. (See Table 2.)

Medical emergencies are transported to the nearest hospital by air ambulance with transfer to major centers if needed. Despite the availability of regular flights, weather patterns, particularly in winter, make emergency air travel difficult and risky.

In addition to obtaining demographics and community data, a focus group approach was employed. One of the issues explored was the adequacy of prenatal education currently being received.

An on-site researcher worked with the focus groups. A variety of groups met in different settings such as the Band Office, the school, and the Nursing Station. Membership in each group was kept small, and questions were limited to a few specific areas and designed to

TABLE 2 Price Comparison: City vs. Reserve

Description of Goods Price	City Price	Reserve
2% milk	\$1.99	\$4.69
cheddar cheese	\$3.39	\$3.99
1 dozen large eggs	\$1.75	\$2.85
1 lb. ground beef	\$2.50	\$4.00
1 lb. chicken	\$1.39	\$3.50
1 lb. beef stew	\$2.99	\$4.00
1 loaf bread	\$1.19	\$2.20
1 box raisin bran	\$3.99	\$4.99
1 box quick cooking rice	\$3.59	\$4.79
1 lb. bananas	\$.79	\$1.50
frozen orange juice	\$1.47	\$1.99
2 lb. carrots	\$.79	\$2.81
3 lb. onions	\$1.35	\$3.05
5 lb. potatoes	\$2.29	\$4.39
canned peas	\$.79	\$1.49
margarine	\$2.29	\$3.25

Note: While volume/mass of goods was matched, some substitutions in brand name were necessary.

minimize the need for group members to return to repeated meetings. Thus, full discussion and resolution of each issue addressed was attempted at each meeting. Some groups met only once or twice, and not all the original members attended each session. This flexible, informal way of gathering data fit with the expectation of the aboriginal women being queried.

As a beginning point, nurses and CHRs, as well as single adolescent mothers, were asked to identify beliefs, values, and attitudes concerning pregnancy. Their response was that pregnancy was viewed as a natural process, with adolescent pregnancy an accepted cultural norm. Prenatal women do not, therefore, concern themselves about risk or pro-active prenatal education. Life unfolds one day at a time (Ogden-Burke, Kisilevsky & Maloney, 1989). Since pregnancy is viewed as a natural process, most women do not reveal their pregnancy to members outside the family, including health care providers, until it is obvious. Many are encouraged to "eat for two" by older extended family members. Questions concerning their decision to adopt breast or formula feeding appear to be important only immediately prior to or following the birth.

Furthermore, most women are unsure what questions they should ask concerning pregnancy or health other than their due date. It is reasonable to expect that this date would be their major concern since all pregnant women are transported to await delivery in the hospital hostel 2 weeks prior to the expected date. The rationale for this policy is due in part to most community-based nurses lacking midwifery preparation, in addition to the higher incidence of complications in these Native women.

There are approximately 50 to 60 pregnancies a year, many occurring among single adolescents living with the extended family. There is no significant seasonal trend. Very few seek prenatal care during the first trimester.

Currently, prenatal teaching is individualized at each prenatal appointment. It is done by the CHR and/or nurse at the Nursing Station and focuses on responding to present-oriented concerns. Prenatal classes, comprise mainly labor and delivery teaching, are held in the hospital hostel while the women await birth.

Community Nursing Station and school staff, as well as members of the Band Council, attempt to encourage health promotion for all youth. The delay in acknowledging pregnancy until later in the second trimester, as well as the belief that nature will take its course, limits

the feasibility of early prenatal classes that were seen as desirable to initiate in order to promote nutrition and healthy fetal growth. The focus groups identified concerns about the use of the term *prenatal education classes* or *sessions* for programs targeting young people prior to the third trimester, suggesting that the term *workshop* might gain more acceptance by the projected participants and might enhance attendance. They determined that workshops featuring topics of concern to young adolescents such as personal development, nutrition, and social problems and situated in either the Nursing Station or school would attract pre-conceptual as well as pregnant youth. The workshops might also encourage the young to adopt measures to delay pregnancy or, alternatively, to better support the pregnant youth.

While the traditional present orientation in Aboriginal communities favors one-to-one counseling with the nurse during each prenatal examination (Ogden-Burke, et al., 1989), classes for third trimester women were viewed favorably by the informants. The timing of such classes and the inclusion of family members or friends would need to be flexible, depending on the participants' preferences. Even so, experience suggests that attendance could be a problem.

The focus group believed that the three stores on the reserve would contribute gifts to encourage attendance. The Chief and Band Council would also do what they could to encourage attendance. The community radio station is the usual medium through which community activities are advertised. Other methods such as posters and word-of-mouth could also be used. Many people, however, are linked by phone. Personal phone invitations have been found to have a positive influence on participants' attendance (Mikhail, 1981). The focus groups indicated that reminder phone calls for encouraging clinic visits for health-related concerns are a useful strategy in their community. To further promote attendance, collaboration between nursing station and school staff would facilitate the workshop agenda being presented in the school.

Planning

The focus group described six components of the planning phase: community needs, site availability and accessibility, transportation, scheduling, content, and strategies, as well as goals and evaluation.

The group felt that prenatal health sessions should be planned to supplement the individual prenatal teaching by Nursing Station staff and to complement the labor and delivery information sessions at the hostel. Family and partners would be invited to these sessions. Planning for the pre-conceptual workshops would be a collaborative effort among adolescents and community resource persons such as nurses, teachers, and elders. The focus group also identified a community interest in parenting classes following the return of the mother and her infant to the reserve.

The focus group suggested the third trimester sessions be held at the community Nursing Station. These sessions should include preparation for separation by the expectant mothers from their extended family and hostel survival skills, in additions to their preparation for labor, delivery, early parenting, and breastfeeding information. The Nursing Station, which has a number of large rooms suitable for group teaching sessions, was perceived to be a centrally located, non-threatening, and acceptable environment. While this may be true of this reserve, in some communities, health delivery in Nursing Stations is not perceived as culturally appropriate, so this site may not be favored in other settings. While sessions at the school were seen as more acceptable for the pre-conceptual group, this site was also viewed as an appropriate alternative location for the third trimester sessions.

According to the focus group, transportation is not problematic. Women would walk or drive. During the winter months, the Nursing Station via the Band Council would arrange for transportation. Providing transportation may increase attendance by reducing the fear of going to a session alone. Additionally, the driver can be asked to encourage participation of those who are not fully committed to attending.

A variety of times could be scheduled for the workshops and for the prenatal classes. Weekdays after school and during the evenings were proposed, as were weekend mornings or afternoons, so many scheduling approaches are possible. Many felt that both parents and/or grandparents would like to attend the parenting sessions, so timing to accommodate all would be crucial.

Responses from the focus group indicated that nurses, CHRs, teachers, band member representatives, and a focus group of adolescent mothers should collaboratively plan topics for sessions, as well as appropriate strategies. Many of these people would assist in the ses-

sions. While the third trimester session would have a more structured focus, topics for the pre-conceptual workshops and parenting sessions would likely be more client directed, focusing primarily on present-oriented needs and concerns.

Play groups could be provided for children. Child care, however, is not problematic given the extended family structure and support in the community. To encourage breastfeeding and bonding, infants would be included with parents in the postpartum parenting classes.

Including refreshments may encourage attendance of prospective clients. Not only would this strategy provide a way to promote healthy nutrition, it would also offer the stores an opportunity to support community health programs. It also might ultimately increase the demand for and supply of healthier food, in particular fresh fruits and vegetables which are presently in limited supply.

Focus groups indicated that those involved in the planning should determine the goals and how they would be evaluated. As well, a plan to share information with the community about the focus groups process and outcomes was considered an important step in furthering health promotion.

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Implementation

Posters would be placed in the three stores, the Band Council office, school, and Nursing Station. The community radio station would advertise the workshops, as well as third trimester and parenting sessions. Personal phone calls would be made to those hard to reach. Guests from the community, including young mothers, would answer pre-selected and phoned-in questions on the community radio station to inform adolescents about the programs. Information sought by callers and received by guests during the phone-in would also influence program content. Stores would advertise attendance prizes, program information, and transportation schedules.

Experiential learning would be emphasized in an interactive program with opportunities to add to or modify the focus. Audiovisual resources selected for their culturally appropriate content and context would be used. The program would support the cultural beliefs and values of participants.

Evaluation

Participants would be asked to evaluate the goals of each workshop and to give feedback for changes to and suggestions for other workshop programs. As far as possible, experiential strategies for evaluation would be used. For instance, evaluation of a segment on nutrition for breastfeeding mothers would involve participants selecting from illustrated menu plans the most appropriate food to meet their needs. Advertising strategies similar to those used to promote the programs would be used to report on their content and outcomes to participants and the community at large to elicit on-going involvement.

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Precaution

While information provided by the focus group assisted in addressing the challenges of this community, it is critical to examine the culture and health-related appropriateness of the program planning, including focus groups' input, when implementing suggested strategies. The women of the extended family traditionally taught many of the needed skills in the home. With the influence of television and other media, as well as contact with the outside world and dominant culture, this dynamic is changing. Nonetheless, care must be taken to maintain important family health promotion roles and to look for ways to build on family knowledge while providing needed, culturally appropriate information and skills.

While in most cases support for the family's traditional teaching of infant care skills is key, sometimes, these

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skills may need to be modified. For instance, ticconogan, a backpack cradleboard that provides warmth and security, is important in transporting infants over the rough terrain of the community where carriages and strollers would be of no use. However, for an infant born with congenital dislocated hips, a problem commonly seen in this population (Houston, 1990), use of the ticconogan, which includes a restrictive wrapping technique, would need to be modified to maintain hip abduction.

Discussion and Conclusion

When the planning model was used, it became evident from the assessment data that early education specific to prenatal health was inappropriate for this aggregate and that alternative strategies were needed. However, identification of demographics and resources did reveal a need for pre-conceptual and third trimester prenatal programming. Additionally, individual counseling was recognized as an important community health promotion strategy and one that should be supported.

The model did provide a focus for planning prenatal health strategies that would meet the needs of this specific community, encourage attendance of the women, and secure support from the whole community. However, a modification to the Planning Phase was needed due to the finding that "early bird classes" were an ill-timed strategy for this community. The authors suggest that an additional step—the identification of appropriate time (during the prenatal/parenting period) for education sessions—be introduced into this phase.

The model provided guidance for future program implementation. Workshops would need to focus on adolescent health and social concerns, while continuing to support family knowledge, as well as the present trust in and comfort with the staff at the Nursing Station. Prenatal classes during the third trimester when breastfeeding and nutrition should be major focuses

might include relatives, friends, and partners. Individual counseling would continue to complement these workshops and classes. Parenting classes to provide lactation support, assist in parenting skills, and maintain infant health would be held after discharge.

The focus group identified a variety of experiential methods for evaluating specific sessions such as a shopping excursion or planning a meal by selecting illustrated food items followed by an analysis of nutritional and economic feasibility. It was felt that these would be more appropriate than quantitative methods. However, for selected sessions, some believed that a short Likert-type questionnaire relative to program content and learning outcomes might be appropriate.

In respect to this Aboriginal community, the model with one modification proved to be a reliable tool for developing an effective prenatal program. The model seems to have value for program planners who work with groups in which ethno-cultural, socioeconomic, or age differences require strategies that are dissimilar to those reported in the literature. The model builds on strengths in the targeted group and community. It also fosters community self-direction and long-term health promotion.

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