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ABSTRACT

This study investigated the effectiveness of the Haitian Perinatal Intervention Project, which provided services to Haitian women and children in south Florida. The project's goals were to help Haitian mothers obtain health services for themselves and their infants and to provide information concerning child care and cognitive stimulation. Participants were identified in the second trimester of their pregnancy and randomly assigned to an intervention or control group. Intervention group mothers were visited in their homes by Haitian paraprofessionals every two weeks during the last trimester and biweekly for two years after infants' deliveries. Control mothers were visited in their homes twice before delivery, but no postpartum home intervention was provided. The study suggests that a biweekly home intervention program provided by indigenous paraprofessionals to Haitian women during pregnancy and the first 12 months of infants' lives may provide: (1) early and continuing access to prenatal obstetric care; (2) favorable birth outcomes in term delivery and appropriate growth in utero; (3) increased developmental scores; and (4) more appropriate and stimulating mother-infant interaction throughout the first year. (RJC)

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Intervention with Haitian Entrants  
in South Florida

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The Haitian Perinatal Intervention Project began in October, 1984, with the support of the Child Survival/Fair Start Program of the Ford Foundation. The Project's goals were to assist south Florida's Haitian entrant mothers in obtaining health services for themselves and their infants and to provide information concerning childcare and cognitive stimulation for their infants. It was hoped that home-based intervention by Haitian paraprofessionals during the clients' third trimester of pregnancy and the infants' first two years would provide the children the "Fair Start" needed to succeed in school.

Two sites were selected for the Project. The first was Broward County, a largely urban area in southeastern Florida. In 1984, as many as 80,000 Haitian entrants resided in Broward County, approximately twice the number documented by the INS at the time. The economy of Broward County, with Fort Lauderdale as the county seat, revolves around banking and tourism. Consequently, there is generally work for unskilled laborers during the winter months in hotels, restaurants and clubs. Haitian women accepted jobs at any wage to support themselves and their children. Many began to learn rudimentary English to understand their employers and to better manage their work situation.

It was estimated that in 1984 approximately 15,000 Haitian entrants lived in Collier County, the Project's second site. Five to six thousand of these Haitians worked as farm laborers and packers during the winter months in Immokalee, a small community in the center of the County. This town has a total population of approximately 14,000 year-round residents including Mexican-migrants, Guatemalan Indians, American Blacks, Whites and Haitians. The availability of work, even during the winter months, helped to create and maintain a large Haitian population in this isolated rural community.

Haitian "entrants" were not designated as "refugees" by the Immigration and Naturalization Service, because they had emigrated from a "friendly" nation. Consequently, Haitians arriving in south Florida in the late 1970's and 1980's were not awarded the same rights, privileges, and services as other immigrant groups, particularly Cuban and Nicaraguan, who were readily given political asylum. Before 1980, Haitians were entitled to no services except health care through the large Public Hospitals; they were dependent upon basic subsistence programs provided mainly by church-supported charities.

In contrast to many of the Hispanic refugees arriving in south Florida during the same years, Haitians had few or no relatives and friends available to sponsor them. Moreover, there were only two small politically active Haitian organizations in south Florida (in Miami), to provide legal assistance to the entrants. This was often a futile effort considering the overwhelming numbers of Haitians needing assistance.

Consequently, the Haitian Perinatal Intervention Project was welcomed by the entrant community as one of the first efforts to provide services to Haitian women and children in south Florida.

### Methods

Participants were identified in the second trimester of their pregnancy by the Project's "Community Interventionists" who canvassed hundreds of homes in Broward and Collier Counties. Participants were then randomly assigned to an "Intervention" group or to a "Control" group. "Intervention" group mothers were visited in their homes by the Interventionists every two weeks during the last trimester of pregnancy and biweekly for two years after the infants' deliveries. "Control" mothers were visited in their homes twice before delivery but no post-partum home intervention was provided. Both

Intervention and Control mothers were invited to bring their infants to a Developmental follow-up Clinic for complete physical, neurological and developmental evaluations at 3, 6, and 12 months of age. The present report describes only the first year of the Project infants' participation.

## Results

Table I presents the demographic data of the Haitian women recruited for this Project. The Collier County site, Immokalee, was so small geographically that it was impossible to identify Haitian women who would not learn of the Project and be angered by being excluded from receiving its services. Consequently, no Control group was identified in Collier County. There were no differences among the Project participants' age, education, number of previous pregnancies, or number of living children. There was a trend suggesting that the Broward Intervention group homes were less likely to include a male partner in their living arrangements.

The Program was successful in assisting the Haitian entrant women to access prenatal care through the Public Health Department as may be seen in Table II. Comparison of time of first prenatal visit of the Haitian participants by group with Black American mothers pregnant at the same time suggested that the Haitian mothers received prenatal care earlier. Both Haitian Intervention and Control group mothers were assisted in accessing prenatal care through telephone calls to the Clinics for appointments, translation to Clinic personnel, and assistance with completion of forms by the Creole-speaking Community Interventionists. Consequently, differences in access to prenatal care were not anticipated or demonstrated between the Intervention and Control groups.

There were differences in the number of prenatal visits between Broward Intervention and Broward Control Groups. The Community Interventionists encouraged the Intervention

mothers to attend Clinic, but did not continue their visits or encouragement of Control group women. These differences may be seen in Table III.

The outcomes of the Project mothers' pregnancies are presented in Table IV. There were no differences between Broward Intervention, Broward Control, or Collier Intervention group participants on any measure including gestational age, birthweight, length, head circumference, Apgar scores or incidence of complications.

Table V compares the Broward Intervention infant outcomes with those of a group of Black American infants born at the same time and with those of a group of Haitian-American infants also born at the same time who had no contact with the Project. As may be seen in this Table, the Black American babies had lower birthweights than did the Haitian infants. Otherwise, there were no differences among the groups on any perinatal measure.

While the average number of complications among the Haitian groups was no different than that of the Black American, there was an unusually high incidence of infections (17%), meconium aspiration syndrome (23%), and respiratory problems (12%). Infections found in the neonatal period among the Haitian infants included thrush, pneumonia, sepsis, and intrauterine infections. There was a non-significant trend for the Broward Control infants to have a higher incidence of infections than did the Broward Intervention group. The Broward Control group also had a higher incidence of respiratory problems than did the Broward Intervention group, including respiratory distress syndrome and perinatal depression.

It is important to note that 7 of the total of 144 Haitian-American infants who participated in the Project did not survive their first year. None of the American Black

babies died in their first year. Table VI lists the medical examiner's identified cause of death for each of the Haitian infants by group. The extrapolated mortality rate for this group of Haitian infants is 48.6 per 1000 as compared with 9.9 per 1000 white infants and 19.3 per 1000 black infants in the State of Florida during 1985. The infant mortality rate in Haiti during the same year was 125 per 1000.

The Project infants received complete physical, neurological, and developmental evaluations at 3, 6, and 12 months of age by a multidisciplinary team associated with the Regional Perinatal Intensive Care Center's Developmental Evaluation Clinic in Fort Lauderdale. In addition, the infants and mothers were videotaped at 3 and 12 months of age in an interactive play sequence.

There were no differences in the physical or neurological outcome of the infants of the Intervention and Control groups at the Clinic visits, nor were there differences in numbers of Emergency Room visits or incidence of hospitalizations among the Project groups. However, the Haitian infants were found to be ill with upper respiratory infections, ear infections, and other related conditions approximately 42% of the time as compared with the total population of high risk children visiting Clinic after discharge from the Neonatal Intensive Care Unit who were ill 16% of the time.

The developmental testing of the infants at six and twelve months showed the Broward Intervention group to be doing better than the Broward Control group on the Mental Development Index of the Bayley Scales of Infant Development. In addition, as presented in Table VII, the Intervention mothers in Broward engaged in more specific play, smiling and vocalizing with their infants in the videotaped sequences at 3 months than did the Control mothers. At 12 months, as may be seen in Table VIII, the Broward Intervention

mothers continued to be engaged in more teaching, affective, and total positive behaviors than did the Broward Control mothers during the videotaped sequence.

During the month following the infants' first birthday, the Home Observation for Measurement of the Environment (HOME) was completed by a Creole-speaking psychometrician who was blind to the group assignment of the infants. There were no differences between the Broward Intervention versus Broward Control groups on this measure. However, the Haitian group's subscale scores, with the exception of maternal responsivity, were significantly lower than those of lower socioeconomic status groups as measured in two recent studies by Johnson et al. in 1984 and Bradley and Caldwell in 1987. These results may be seen in Table IX.

The present study suggests that a bi-weekly home intervention program provided by indigenous paraprofessionals among Haitian entrant women during pregnancy and the first 12 months of the infants' lives may be effective in many ways. These include:

1. early and continuing access to prenatal obstetric care;
  2. favorable birth outcomes in those areas related to term delivery and appropriate growth in utero;
  3. better developmental scores;
- and
4. more appropriate and stimulating mother-infant interaction throughout the first year.

The Project has also underscored the recognition of the need for better primary care for disadvantaged term infants with more subtle perinatal complications, some of which may be life-threatening. It is also evident from the results of this Project, as is clear in the comparison studies of the H.O.M.E., that there may be more than one strata of severe deprivation among lower S.E.S. groups, placing infants and children of certain immigrant groups at much higher risk for poor health and cognitive deficits.





Figure 1. Map of South Florida.

**TABLE I**  
**Haitian Perinatal Intervention Project**  
**Demographic Data**

	Broward Intervention (N=56)	Broward Control (N=44)	Collier Intervention (N=33)
Maternal Age	28.16 (5.0)	29.2 (4.9)	28.1 (5.0)
Maternal Education (last grade completed)	5.92 (4.3)	5.68 (4.1)	5.5 (6.8)
Previous Pregnancies	3.28 (1.8)	3.10 (1.6)	3.32 (1.6)
Living Children	1.76 (1.4)	1.80 (1.4)	1.88 (1.3)
Husband/Boyfriend present in home	68%	82%	82%

**TABLE II**  
**Haitian Perinatal Intervention Project**  
**First Prenatal Visit**

Broward I (N=56)	Broward C (N=44)	Collier I (N=44)	Black American (N=50)
19.96 (7.86)	20.66 (6.76)	19.92 (6.77)	20.21 (9.77)

**TABLE III**  
**Haitian Perinatal Intervention Project**  
**Prenatal Visits**

<u>Visits</u>	Broward I (N=54)	Broward C (N=43)
1-5	24	16
6-11	11	20
12-18	19	7

$X^2 = 8.61, p < .01, df = 2$

**TABLE IV**  
**Hatian Perinatal Intervention Project**  
**Perinatal Data**

	Broward I (N=57)	Broward C (N=51)	Collier I (N=40)
Gestational Age	39.5 (1.3)	39.4 (1.7)	39.3 (2.2)
Birthweight	3322.8 (504.1)	3326.2 (589.4)	3344.3 (669.6)
Apgar - 1 min.	8.5 (1.2)	8.2 (1.4)	7.8 (1.9)
Apgar - 5 min.	9.3 (.6)	9.0 (1.4)	8.8 (1.0)
Number of Complications	1.1 (1.3)	2.4 (3.1)	1.6 (2.5)

**TABLE V**  
**Haitian Perinatal Intervention Project**  
**Perinatal Data**

	Broward I (N=57)	Black American (N=50)	Haitian Comm. Control (N=59)
Gestational Age	39.5 (1.3)	39.3 (0.9)	39.4 (1.3)
Birthweight	3322.8 (504.1)	3119.1 (419.4)	3371.8 (485)
Apgar - 1 min.	8.5 (1.2)	8.5 (0.6)	8.3 (0.8)
Apgar - 5 min.	9.3 (.6)	9.3 (0.5)	9.3 (0.6)
Number of Complications	1.1 (1.3)	.8 (1.0)	.64 (1.0)

**TABLE VI**  
**Haitian Perinatal Intervention Project:**  
**Infant Mortality**

	Broward Int.	Broward Cont.	Collier Int.
SIDS	0	1	1
Cardiomyopathy	1	1	0
Aspiration Pneumonitis	1	0	0
Gastroenteritis	1	0	0
Immunological Deficiency	1	0	0

**TABLE VII**  
**Haitian Perinatal Intervention Project**  
**Mother-Infant Intervention**  
**3 Months**

	Broward Intervention (N=52)	Broward Control (N=32)
Infant Play	34.3 (20.8)	34.4 (17.4)
Mother Play	57.8 (15.6)	49.9 (16.7) *
Total Interaction	47.0 (14.4)	43.5 (16.6)

\*p<.05



TABLE VIII  
 Hatian Perinatal Intervention Project  
 Mother - Infant Interaction  
 12 Months

	Broward Intervention (N=43)	Broward Control (N=33)
Maternal Teaching	40.0 (13.4)	34.2 (8.8) *
Maternal Affective	43.1 (15.2)	34.3 (11.6) **
Total Caretaker Behavior	41.5 (11.8)	35.5 (11.1) ***
Infant Behavior	58.7 (12.3)	56.8 (11.5)
Total Interaction	48.9 (10.1)	44.2 (8.8) ***

\* p<.01

\*\*p<.001

\*\*\*p<.02

**TABLE IX**  
**Haitian Perinatal Intervention Project**  
**H.O.M.E.**

	Broward I&C (N=85)	Johnson, et al. (1984) (N=367)	Bradley & Caldwell (1987) (N=67)
Responsivity	9.7 (1.6)	8.5 (2.1)	8.0 (2.1)
Acceptance	4.5 (1.6)	5.4 (1.5)	5.3 (1.6)
Organization	3.3 (1.5)	4.5 (1.3)	4.9 (1.2)
Play Materials	4.1 (1.9)	4.6 (2.1)	6.4 (2.4)
Involvement	2.9 (1.4)	3.4 (1.6)	3.3 (1.6)
Variety	2.2 (1.4)	2.6 (1.2)	3.0 (1.1)
Total	26.1 (5.3)	28.9 (6.7)	31.9 (7.6) *

\*p<.01