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ABSTRACT

The Parent-Infant Project (PIP), an infant stimulation and educational program for children from 0 to 4 years of age, was established to investigate the effects of early intervention programs for infants and toddlers who are at risk for special education services due to developmental delays. The purposes of the project are to (1) identify environmental conditions that exist within families and that may contribute to the child's at-risk status and (2) work with parents in the home in order to help the parents provide experiences which will lead to their children's optimal development. The Parent-Infant Project is a cooperative, multidisciplinary program with a network and linkage system which connects many disciplines and agencies. The project provides periodic assessments of children's growth in the developmental skill areas of cognition, perception, motility, language/communication, self-help, and physical and social behavior. Preliminary findings of research into program effects on 53 participants revealed that 83 percent of the economically disadvantaged infants referred for an evaluation demonstrated developmental delays of 6 months or more in one or more of the developmental skill areas. (RH)

EARLY CHILDHOOD INTERVENTION FOR ECONOMICALLY DISADVANTAGED CHILDREN: THE PARENT-INFANT-PROJECT

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Abstract

Recent attention relating to the "Basic Skills for Disadvantaged Children" has been in the area of Early Childhood Education. Educators are now convinced that early intervention programs for disadvantaged and minority children can be beneficial in helping them reach their developmental potential. Current research from the Ypsilanti Project, Project Home Start, Project Memphis and the Parent Education Project have demonstrated that exemplary early childhood educational programs can reduce the number of children needing compensatory - special education training in school, increase children's potential for acquiring the basic skills for academic achievement, decrease the likelihood of juvenile behavior problems and increase the possibilities that children will develop appropriate socialization skills.

The PARENT-INFANT-PROJECT (PIP) developed by Tennessee State University-Center of Excellence-Basic Skills for the Disadvantaged addresses the need and impact of early childhood intervention for economically disadvantaged children between the ages of zero and four. The PIP Program areas of investigation are the following:

- early identification and evaluation
- infant home stimulation
- early intervention

- parent involvement
- parent counselling

The project is designed to examine the effects of an early intervention home-based program for infant/toddlers who are at-risk for developmental delays. The purpose of the project is to identify environmental conditions within families that may contribute to the at-risk status and to develop and provide training to eliminate the problems.

"The theoretical merit of the high risk concept is based on the premise that by looking carefully at a group of infants early in life, who may have a greater risk of developmental or physical problems; early identification of those with problems, followed by early intervention, leads to a better chance of minimizing the deviation and promoting the children's normal development and maturing process. Therefore, when an infant has been identified as high risk, a careful developmental history, physical and neurological examination, developmental screening, and sensory stimulation should be done at regular intervals" (Krajicek Tearney, 1977, 1977).

The Parent-Infant-Project works with parents in the home to assist them in providing experiences which will lead to their children's optimal growth and development. PIP is a cooperative, multi-disciplinary program with a network and linkage system with many disciplines and agencies. PIP

provides periodic assessments of a child's growth in each of the following developmental skill areas:

- cognition
- perception
- motor
- language/communication
- self-help
- physical and social

Stimulation, in the areas of delay (s), is provided once a week for each infant/toddler based on their individualized needs. In addition, parents are instructed in stimulation and parenting techniques in order to increase their effectiveness. Families participating in the home-based program receive individualized services to meet the needs of each child.

Review of Literature

In 1969, the Joint Commission on Mental Health of Children supported the view that children from the lowest socioeconomic group were handicapped by multiple problems that affected their cognitive, physical and emotional-social development. The commission emphasized that these problems begin in early childhood and steadily worsen as the child grows older. In essence, "these children do not outgrow these problems, and without careful and planned intervention the difficulties become worse" (Bender & Bender). Researchers have noted that there exist some general relationships between early developmental delays--problems

and lack of age appropriate basic educational skills. Children identified as being developmentally delayed in their communication abilities during their preschool years generally demonstrate, upon reaching school age, problems in the basic skills area of language arts. Without planned intervention during the early formulative years places these children at-risk for developing behavior characteristics that are parallel to those children who are retarded, emotionally impaired and learning disabled. Studies have documented that disadvantaged children have many of the physical appearances, academic problems and school related concerns similar to children classified in special education as mentally and socially handicapped.

Frost and Hawkes (1976) noted that the disadvantaged child does not typically display apparent neurological defects; he or she may be placed in a classroom for the retarded because of cognitive limitations caused by impoverished cultural and educational experiences. Martin (1967) concluded that there exists some general relationship between the conditions of social, cultural, and economic deprivation and cognitive deficit. Myers & Hammill (1976) noted that, "Early Sensory deprivation of one sort or another, emotional problems, and cultural deprivation all play a role in learning disabilities."

The environment that has the highest rate of disease, crime, and social disorganization, also has the highest rate of school retardation. It has been well documented that a high percentage of children (with no discernible pathological signs or physical impairments) classified as mildly retarded (IQ 50-70) often come from economically disadvantaged families

Studies have further documented that the incidence of mild mental retardation and appropriate school social skills have varied with the socioeconomic class (MacMillan, 1982; Wyne & O'Connor, 1979). According to normal epidemiological distributions, the number of mildly retarded should be around 15 per 1,000 school children, but the figure may range from below 10 per 1,000 in areas of **high** socioeconomic status to over **50** per 1,000 in **poverty** areas (Hewlett & Forness, 1984). In addition, a high percentage of disadvantaged children reside in an environment that have the potential for generating stress and creating deficits in physical and emotional resources over an extended period of time. Public agencies, such as schools, have been shown to label poor or ethnic minority children living in deteriorated housing far more frequently than white children living in middle-class neighborhoods (Lei, Butler, Rowitz, & McAllister, 1974; Kirk, 1978; Patrick & Reschly, 1982).

A large body of empirical literature supports the assumption that certain environment conditions may retard psychological processes, including intellectual development. Robinson (1972) noted some common characteristics frequently found in identifying disadvantaged children and their environment which included, "low family income, welfare as primary income, ethnic minority - group status, deteriorated housing, urban or isolated rural living environments, poor overall school performance, poor reading skills, limited language skills, low scores on standardized intelligence and achievement tests, high school dropout rate, low college admission rate, and high unemployment." Thus, research supports the assumption that the development of mental and social disabilities may be associated or correlated with early developmental delays in cognitive, communication, motor and adaptive skills. The delay(s) in acquiring these developmental skills may be a prediction of school learning disabilities in children.

Also, in regards to social and emotional growth, children's mental and socialization skills are also formulated early in life. The early interaction between the parents and the child is significant in developing the mental, social and emotional maturity. Havighurst (1953) identified the essential steps in the social and mental development of children during the formulative period:

1. Forming simple concepts of social and physical reality;

2. Learning to relate oneself emotionally to parents, siblings and other people; and

3. Learning to distinguish right and wrong; developing a conscience.

Havighurst provides support to the concept that early childhood programs must address the needs of children's mental development, as well as, their cognitive, motor and communication skills.

National attention is now focused on early childhood programs for disadvantaged children for the purposes of (1) developing cognitive, affective and communication skills that will contribute and enhance the acquisition of basic educational skills, (2) to prevent the increase of developmental delays, and (3) to prevent these children from being at-risk for being labeled mentally, socially and educationally handicapped.

The theoretical merit of the early childhood concept is based on the premise that early identification of those minority and disadvantaged children with developmental problems, followed by early intervention, leads to a better chance of minimizing the delays and promoting the children's normal developmentand maturingprocess.

Early childhood education for disadvantaged children is the first step in helping the children acquire the vital basic skills required for school achievement, academic

mastery and appropriate socialization skills. It is the one prevention method that has been proven to help decrease developmental problems and delays (those not associated to any physical or pathological conditions) for disadvantaged children who are at-risk for delays due to economics or environmental conditions. Recent research findings by Breedlove & Schweinhart (1981) have demonstrated that "exemplary early childhood education programs can reduce the number of disadvantaged children needing special education courses, increase their potential for succeeding in school, decrease the likelihood of juvenile behavior problems and increase the possibilities that these children will complete their high school programs."

The Parent-Infant-Project (PIP) (an infant stimulation and educational program for children, zero to four years of age) was established to investigate the effects of early intervention programs for infants/toddlers who are at-risk for special education services due to developmental delays. The purpose of this project is to provide training to eliminate the at-risk status. The Parent-Infant-Project works with parents in the home to assist them in providing experierces which will lead to their children's optimal growth and development. PIP is a cooperative, multi-disciplinary program with a network and linkage system with many disciplines and agencies. PIP provides periodic assessments of a child's growth in each of the following

developmental skill areas:

- cognition
- perception
- motor
- language/communication
- self-help
- physical and social

Stimulation, in the areas of delay (s) is provided once a week for each infant/toddler based on their individualized needs. In addition, parents are instructed in stimulation and parenting techniques in order to increase their effectiveness. Families participating in the home-based program receive individualized services to meet the needs of each child.

RESEARCH QUESTIONS

1. What effect (s) does an early intervention home-based program have on the developmental growth of economically developmentally delayed children between the ages of zero to four,

2. What effect (s) does an early intervention home-based program have on reducing the stress level of parents, and

3. What effect (s) does an early intervention home-based program have on increasing parenting skills?

RESEARCH HYPOTHESES

Ho1: 45% of the economically disadvantaged infants between zero and age four referred for a developmental evaluation will demonstrate developmental delay (s) of 6 months or more in the following areas:

- cognitive
- communication
- personal-social
- adaptive
- motor

Ho2: Early stimulation and intervention with economically developmentally delayed children (ages zero - four) will increase their developmental growth by:

a. 40% after one (1) year of intervention
b. 65% after two (2) years of intervention in the following areas:

- Personal-Social
- Adaptive
- Motor (fine/gross)
- Communication (receptive/expressive)
- Cognitive

Research Design: (1) Developmental Studies
(2) Descriptive Studies

Study Population: 53 economically disadvantaged children between zero and age four; residing in Nashville, Tennessee, Davidson County area.

The selection criteria for the research group consisted of the following:

1. infants between zero and age four.
2. residence in Davidson County.
3. The child and family not receiving any other type of early intervention/stimulation program.
4. Parents willing to participate in parent counselling.
5. Parents willing to allow weekly visits for infant stimulation.

The children/clients were referred by the following groups:

27% doctors (private practice)
18% hospitals
30% public health agencies
15% private organizations (preschools/agencies)
10% self-referrals

The staff required to conduct research and collect the information included the following personnel:

Counselor	-	To coordinate referrals, to conduct the home assessments, to conduct clients screenings, to attend Individualized Educational Program meetings, implement the home-based parent counselling and to provide inservice.
School Psychologist	-	To evaluate the clients, coordinate the re-evaluation stimulation plan, to attend Individualized Educational Program meetings, to analyze and counselling parents and provide inservice training.
Special Education Clinicians	-	To coordinate and chair the Individualized Educational meetings, to implement the home-infant stimulation program, to develop teaching methods/strategies for early intervention and to conduct workshops.
Researcher/Coordinator	-	To plan and design the research goals and objectives, to coordinate the data collection activities, to analyze data, to evaluate the effectiveness of the project and to prepare and present the research for publication and presentations.

Research Tools and Materials:

Portage Project Screening
Battelle Developmental Inventory
Individualized Stimulation Educational Plan
Parental Stress Index
Self - reports
Interviews
Observations
Questionnaires

Procedures

1. Fifty-three economically disadvantaged children between zero and age four were screened using the Portage Project Screening Program.

2. Each child was evaluated for developmental delays using the Battelle Developmental Inventory.

3. A multidisciplinary team was convened for each child to discuss the present level of performance, results of the testing, stimulation plan, instructional goals and objectives. This information assisted the staff in developing an individualized stimulation educational plan (ISEP) for each child.

4. The families of the noted children were administered the HOME Inventory, Parental Stress Index, and the Tennessee Self-Concept. The families received an individualized parent training program for their children.

5. Sensory stimulation was provided once a week for one hour to the children.

6. The parents received individualized home based parenting training skills once a week along with materials and books about sensory stimulation.

NOTE: The children will be scheduled for a re-evaluation after every twelfth week of stimulation.

Research Referral and Evaluation Process:

REFERRAL

INTAKE-SCREENING

ASSESSMENT
School Psychologist & Clinical Psychologist
If appropriate, the Speech and Language Therapist

MULTIDISCIPLINARY TEAM
STAFFING

DEVELOPMENT OF THE (ISEP)
INDIVIDUALIZED STIMULATION EDUCATIONAL PLAN
*The referring agency is encouraged to attend this meeting and/or submit any pertinent information

Parent Project

Early Intervention Infant Stimulation

RE-EVALUATION
(every 12 weeks)

Research Limitations and Clarification:

1. The research limitation of the PIP Program is the lack of an identified control group. (Professional ethnics prevail that one should not withhold services that are known to enhance children's development and learning).

2. Children develop and learn at different rates. References to the various developmental stages referred to in this research will indicate the unique sets of mental and physical processes that are commonly found during particular ages.

RESEARCH RESULTS

The results of the Parent-Infant-Project revealed the following information:

1. The age distribution of the research group consisted of the following breakdown:

Months	Number	Percent
0-12.0	15/53	28%
13.0 - 24.0	20/53	38%
25.0 - 36.0	9/53	17%
37.0 - 48.0	9/53	17%

2. The sex distribution of the research group consisted of the following breakdown:

	Number	Percent
Male	31/53	58%
Female	22/53	42%

3. The race distribution of the research group consisted of the following:

	Number	Percent
Black	37/53	70%
White	14/53	26%
Other	2/53	4%

4. The distribution of developmental areas revealed the following:

Area	Number of Infants with Developmental Delay	Percent	Average number of developmental delay by months
Personal Social Skills	45/53	85%	8 months delay
Adaptive Skills	46/53	87%	7 " "
Motor Skills	46/53	87%	8 " "
Fine	46/53	87%	6 " "
Gross	47/53	89%	8 " "
Communication	49/53	92%	11 " "
Receptive	48/53	91%	10 " "
Expressive	44/53	83%	12 " "
Cognitive Skills	44/53	83%	6 " "

The rank order of developmental skills according to the degree of delays (Highest to Lowest) were of the following:

DEGREE OF DELAYS (HIGHEST TO LOWEST)

Communication Skills	11	months
Personal-Social Skills	8	months
Motor Skills	8	months
Cognitive Skills	6	months

5. The environmental conditions of the at-risk families included the follow:

(Number of families: 42)

79% Single mothers

33% Teenage mothers (under age 21)

88% Unemployed parents

90% Receiving government assistance

33% Completed high school

45% At least one or more school age child/ren experiencing school-related academic and social problems.

40% Changed residence in the last year

The preliminary results of the research data supported the first hypothesis that forty-five percent of the economically disadvantaged infants referred for an evaluation would demonstrate developmental delays of six months or more, in one or more of the evaluation areas - cognitive, communication, personal/social, adaptive and motor. The actual percentage was eighty-three percent which was well over the forty-five percent stated in the hypothesis.

The supporting data for the second hypothesis will not be available until the completion of thirty-six weeks of stimulation.

The educational benefits that can be derived thus far from the results of the Parent-Infant-Project are (1) the need for early identification of economically disadvantaged provide stimulation to children with possible developmental delays in order to prevent the increase of the delays, (2)

the identification of environmental conditions that will assist agencies in providing services that will reduce poor health and safety conditions, and (3) the need to develop an individualized stimulation educational program (ISEP) for the child and the parents in order to provide the necessary stimulation, education and training.

The data from the re-evaluations will be used to support or reject part one and two of the second hypothesis. It is anticipated that the children receiving stimulation will demonstrate significant gains in their developmental growth.

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