Lessening the impact of poverty on children

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The present paper is divided into three sections. The first section deals with two issues: the impact of poverty on children and the hypothesized mechanisms by which poverty affects children. The second section discusses four guiding principles for programs that aim to reduce deficits in the quality of life and life chances of poor children. The third section describes promising intervention programs.

Key Words: *Gradient; Interventions; Poor children; Universality*

La réduction de l'effet de la pauvreté sur les enfants

Le présent article se divise en trois parties. La première traite de deux sujets : l'effet de la pauvreté sur les enfants et les mécanismes hypothétiques selon lesquels la pauvreté nuit aux enfants. La deuxième partie porte sur quatre principes directeurs pour concevoir des programmes visant à réduire les déficits de la qualité de vie et des perspectives de vie des enfants pauvres. La troisième partie décrit des programmes d'intervention prometteurs.

The present paper discusses the impact of poverty on children, the hypothesized mechanisms by which poverty affects children, four guiding principles for programs that aim to reduce deficits in the quality of life and life chances of poor children, and several promising intervention programs.

IMPACT OF POVERTY ON CHILDREN

Poor children, compared with their middle class peers, have been consistently shown to have significantly more psychosocial difficulties (1). For example, in the Ontario Child Health Study (OCHS), which gathered information in 1983 on a province-wide sample of more than 3000 children, the data were consistent and striking (2). Compared with middle class children, poor children had more than twice the rate of psychiatric disorders (31.6% versus 13.8%), poor school performance (29.7% versus 13.3%), social impairment (11.9% versus 3.5%) and regular tobacco use (25.6% versus 11.6%), and almost twice the rate of chronic health problems (30.1% versus 17.6%). In addition, poor children were significantly more likely to grow up in families with one parent in the home, parental unemployment, parental psychiatric disturbance, disturbed family relationships and overcrowding. In short, poor children in Ontario have a markedly inferior quality of life.

The OCHS called attention to two other important points. First, in the psychiatric domain, a teacher rather than a parent is more likely to identify poor children aged six to 11 years rather than their middle class peers as having significantly more clinically important behavioural problems. For instance, in the case of conduct disorder, the rates of teacher-identified disorders in the poor and not poor groups were 15.6% versus 2.6%, respectively, a sixfold difference. Conversely, the rates of parent-identified conduct disorder did not differ between the groups. Second, it should be noted that the deficits in poor children are widespread, and difficulties tend to co-occur in the same children. For example, poor children with mental health problems are much more likely to demonstrate poor school performance and experience chronic health problems. Unwanted outcomes accumulate in individual poor children.

Brooks-Gunn et al (3) emphasize two points. First, the harmful effects of poverty on children are more marked in the preschool period than in later developmental stages.

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Second, the number of years that a family lives in poverty is significantly associated with negative outcomes in children. For example, in an American national sample of five-year-olds, children who lived in poverty for the first four or five years of their lives had intelligence quotient scores nine points lower than children who did not live below the poverty line during their first five years of life. By contrast, children who had been poor for some but not all of those years had intelligence quotient scores that were, on average, four points lower than those of children who were not poor.

In summary, convincing data indicate that poverty is an indicator or marker that identifies a group of children with inferior quality of life and life prospects.

MECHANISMS OF ACTION

In contrast with the large amount of data establishing poverty as a marker for poor child outcomes, there is a paucity of data on how poverty influences child outcomes (3). One of the difficulties in identifying mediators between poverty and child outcomes is that poverty often coexists with other characteristics of parents and families that are also associated with poor child outcomes, such as a low level of parental education and single parenthood. It has been difficult to distinguish the independent effects of each factor on child outcomes. For example, it is unclear whether throughout the developmental years the effects of a mother's education are more significant or less pronounced than those of family income. The same dilemma applies to the role of single parenthood as an independent factor producing unwanted child outcomes in poor families.

It is possible to imagine a number of pathways by which poverty may have a detrimental effect on child outcomes, but there is little research investigating most of the possible mechanisms (3). Most of the research has centred on the provision of learning experiences, the emotional and physical health of parents, and especially on the effects of parenting behaviour (4). Conger et al (5), for instance, put forth a model for which there are some supporting data. The authors hypothesize about the effects of income on adolescents' lives. In their model, low income causes economic pressures that can lead to parental conflict over financial matters. This, in time, increases the harshness of the mother's parenting, leads to a reduction in the adolescent's self-confidence, and finally results in a reduction in the adolescent's grade point average. Further work on the identification of mediators and their mechanisms of action in producing inferior child outcomes in poor families is needed, and large longitudinal data sets are a major prerequisite.

GUIDING PRINCIPLES FOR PROGRAMS

The four guiding principles of intervention programs are the gradient, universality, the importance of the first five years of life and strategies for delivering interventions.

Gradient

Although, as noted earlier, poor children are disadvantaged in many ways compared with middle class children, data show that there is no threshold on income level below which children do very poorly, and above which all children do equally well. Instead, there is a gradient of frequency of problems that mirrors a gradient in income. For example, in the National Longitudinal Study of Children and Youth, the prevalence of children in Canada with difficulties in the lowest quartile of family income was 35.3%; the frequency of difficulties in the lower middle, upper middle and highest quartiles were 29.5%, 24.8% and 23.2, respectively (4). The higher the income was the lower the rates of difficulties.

The presence of gradients presents several corollaries for planning programs for poor children. First, most of the children with problems are not economically disadvantaged but come from middle and upper income families. It is true that a greater proportion of poor children have problems, but many children in the middle and upper classes also have problems and the children in those classes outnumber the poor children many times over. Second, because the problems of children extend across the social classes, the causes of these problems also extend across the socioeconomic spectrum. Third, interventions targeted only at the poor cannot be expected to reduce the overall prevalence of children with problems markedly; a universal program aimed at improving the situation of all children has a better chance of reaching this goal. Last, the existence of the gradient makes it more difficult to assume a 'we-they' attitude with respect to economically disadvantaged children. A proportion of children across all income levels has problems; thus, an effective program to reduce the frequency of these problems in poor children, if applied universally, could be expected to benefit children from across the socioeconomic spectrum.

Universality

Regardless of which program is offered to any group of children, it is essential that the program aims to fulfil the three criteria of universality: equal access, equal participation and equitable outcomes. The most important criterion is 'equitable outcomes'. This does not mean that all children in Canada should have equal outcomes; the goal is to have the same range of outcomes among different groups of children, for example, rich and poor children, immigrants and nonimmigrants, and boys and girls. The danger inherent in implementing children's programs is that the most needy children, those who require the programs the most, will be the ones least likely to receive them.

The importance of the first five years

A large body of literature, much of it recent, supports the belief that a child's experiences in the first five years of life can have a major influence on his or her future health, well-being and productivity (4,6). The most rapid devel-

opment of the brain occurs in the first five years of life, and the healthy development of the brain in that period is dependent on adequate nutrition, good nurturing and loving care, which provide the sensory stimulation that children need for satisfactory brain development. When healthy brain development does not occur in the early years, it does not mean that the child is destined for a life of misery, but it usually indicates that remedial interventions will be expensive and may not be successful. A strong argument can be made that ensuring that all children have a healthy first five years of development is the most important initiative that can be taken to make sure that the disadvantaged status of poor children compared with their middle class peers will be reduced at the time of school entry and beyond. Furthermore, enriching the first five years of development of children will not only benefit poor children but all children.

Strategies for delivering interventions

Three strategies or types of programs should be in place to improve the life quality of poor children: universal programs that are offered to all children; targeted programs that are only offered to certain children or groups of children; and clinical programs where children and their families can seek help (7). Each of these programs has advantages and disadvantages. An advantage of universal programs is that because the program is offered to all children, no child is singled out with the resulting possibility of labelling and stigmatization. A disadvantage of these programs is the finding that within a given population, advantaged children benefit more from the program than disadvantaged ones. Targeted programs can be efficient if the targeting is accurate; but, if it is inaccurate, children are unnecessarily labelled and stigmatized, or children who need help are not identified. Clinical programs are efficient because the children (and their families) who seek help usually have a clinically significant problem. However, clinical programs are expensive, and it is difficult to achieve adequate coverage (see reference 3 for a detailed discussion of these issues). It is essential that a comprehensive intervention initiative to enrich the lives of poor children include all three types of programs.

PROMISING INTERVENTION PROGRAMS

There is evidence that intervention programs that focus on children from birth to five years of age can yield measurable benefits in the short run, and that some of these benefits can persist long after the program has ended (8,9). Three examples of studies of intervention programs with strong research designs are covered in detail by Karoly et al (8) and Mrazek and Brown (9) in their reports, and are summarized below.

In the High/Scope Perry Preschool Program (10), a high quality comprehensive educational preschool program was offered to three- and four-year-old children who lived in families of low socioeconomic status, and who, according to test scores, were at risk for failing in school. The long term follow-up of this sample had little attrition, and showed the effects of such a program on the children's success in school, and on later socioeconomic success and adjustment as young adults. Although early significant effects on the intelligence quotient were no longer significant by grade 2, the children in the intervention group had increased academic achievement throughout their elementary and middle school years. At age 19 years, the intervention group had better jobs, less unemployment and less public assistance. Compared with the control group, fewer children from the experimental group were arrested, and had less self-reported delinquent behaviours. Female subjects at age 19 years reported fewer pregnancies and births than women in the control group. By age 27 years, program participants had significantly lower lifetime criminal activity. A cost-benefit analysis revealed that there was a return of $6 for every dollar invested in the one-year program and $3 for every dollar invested in the two-year program.

In the Carolina Abecedarian Project (11), the goal of the intervention was to prevent mild mental retardation and improve academic and social competence at school entry for economically disadvantaged children. From infancy to age five years, children in the experimental group attended a high quality daycare setting where language, cognitive, perceptual motor and social development were emphasized. Beginning at 18 months of age, and on every test of mental capacity thereafter, the children in the experimental group outscored children in the control group. Children in the experimental group consistently scored at the national average, whereas the initial scores of children in the comparison group declined from the average level at 12 months to below average at 18 months and thereafter.

In the third example, (the Prenatal/Early Infancy Project) (12), the participants were pregnant women who lived in a small, semi-rural county in upper New York state. The experimental group received home visits from registered nurses that began during pregnancy and continued until the children were two years of age. The home visits were carried out by nurses who were trained in parent education, strategies for providing social supports for mothers, and linking the family with other health and human services. The study found significant short and long term advantages for both the mothers and children in the intervention group. In the short term, mothers in the intervention group demonstrated more positive pregnancy behaviours (ie, less cigarette use, better nutrition, improved childbirth class attendance and more social supports reported). The 15-year follow-up study found fewer reported acts of child abuse and neglect among the mothers who were visited by nurses compared with the control group.

While the results of the intervention programs outlined above are promising, there is much to be learned about effective intervention programs for young children. Most of the existing demonstration programs are small, and little is known about the effects of expanding these initia-

tives to a larger population. There are no published evaluations of community programs that provide a combination of universal, targeted and clinical interventions. There is, however, evidence that, in countries or regions that invest more heavily in infancy and preschool programs, the children who enter the formal school system are better prepared to learn (4,13).

CONCLUSIONS

Paediatricians and others interested in child health have important roles to play in lessening the impact of poverty on children. First, they should work in their communities to ensure that all children experience a healthy first five years of development. McCain and Mustard (4) recommend establishing early child development and parenting centres in communities across Canada. These centres would have a number of elements, including group programs for children, child care, prenatal and postnatal support, drop-in programs, parenting courses, and other informal supports to increase the effectiveness of parents. It is important that these centres have universal, targeted and clinical programs, and do not service poor children exclusively. There should be evidence that the programs have been effective in other settings before they are implemented. Also, a plan to evaluate the effectiveness of these programs in individual communities should be in place before they are carried out. For example, a readiness-to-learn measure administered by teachers of children in kindergarten could provide a profile at the population level of the degree of success of child development during the first five years of life in a particular community (4).

A second role for paediatricians and others is to promote true universality in children's programs. It is not enough to know which children and families attend programs; knowledge is needed about those who could come out to programs. Data are consistent in showing that high risk children and families, those who need the programs the most, require special efforts to ensure their participation. This principle applies to children's programs across the developmental years from parenting programs to sports and arts programs to peer counselling.

Finally, it should be noted that success in lessening the impact of poverty on children will benefit not only poor children and their families, but all children and their families.

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Answer the following questions by circling the letter of the correct answer(s). Answers can be found on page 576.

1. The most difficult universality criterion to fulfil is:
   a) equal access.
   b) equal participation.
   c) no fee.
   d) equitable outcomes.
   e) active pursuit of high risk populations.

2. Poor children are more likely to be identified as having more emotional and behavioural problems than their middle class peers because of an increased prevalence of:
   a) parent-identified disorders.
   b) teacher-identified disorders.
   c) both a) and b) equally.
   d) only conduct disorder.
   e) only emotional disorders.

3. The presence of a gradient indicates:
   a) most children with problems are poor.
   b) flattening the gradient will be a disservice to middle and upper class children.
   c) support for targeted programs.
   d) most poor children have problems.
   e) support for universal programs.

4. Which of the following statements is false?
   a) Universal programs benefit all children equally across the socioeconomic spectrum.
   b) Clinical programs are expensive and coverage is difficult.
   c) Targeted programs are efficient if the identification of the high risk group is done accurately.
   d) Universal programs have the advantage of no labelling or stigmitization.
   e) Targeted programs have a risk of labelling children.

5. Which of the following statements is true?
   a) No studies have successfully prevented cognitive difficulties in poor children during the first five years of their lives.
   b) No early intervention studies designed to improve parenting or children's emotional and cognitive development show long term benefits to participants.
   c) It is not known whether small, successful early intervention programs that seek to lessen the impact of poverty on children can be applied to larger populations effectively.
   d) It makes no difference in the effectiveness of preschool programs on child outcomes if parents are involved.
   e) Preschool programs attract high risk children and their families in larger numbers, even when no special effort is made to recruit them.