Mental Health Problems of Children of Migrant and Seasonal Farm Workers: A Pilot Study

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ABSTRACT

Objective: Children of migrant and seasonal farm workers constitute important populations for study because they chronically experience extreme poverty and parental unemployment. Also, migrant children are exposed to chronic residential and school mobility. **Method:** Mothers and children were interviewed using the Diagnostic Interview Schedule for Children Version 2.1. **Results:** The results indicated that 66% of the children had one or more psychiatric diagnoses based on mother or child reports, with anxiety disorders being the most prevalent diagnosis. **Conclusions:** These findings suggest the need for a larger, epidemiological study of the psychiatric morbidity of rural children of farm workers. *J. Am. Acad. Child Adolesc. Psychiatry*, 1997, 36(2):224–232. **Key Words:** farm worker children, chronic stress, child psychopathology.

Agricultural labor is the primary form of employment in many counties in the southeastern part of the United States; however, the work is episodic and low-paying. Because of these working conditions and the decline of the plantation economy, displaced sharecropper families began a lifestyle of moving up and down the East Coast to find work. These families formed what is now referred to as the East Coast Migrant Farm Worker Stream. The East Coast Stream has traditionally consisted of black American families, although during the past 25 years, Mexicans have joined this workforce. Currently, the majority of workers in the stream are single Hispanic men or Hispanic families, although black families are still present in this population (Griffith and Kissam, 1990). This population constitutes a large workforce; in fact, there are approximately 30,000 migrant farm workers employed in North Carolina each year. The available data on the total number of migrant farm workers and their dependents in North Carolina are poor owing to factors such as lax reporting by employers, constant residential mobility, and the employment by farmers of undocumented workers, so that estimates vary across agencies. In addition to migrant workers, there are seasonal farm workers who do not move but who are also employed in agriculture. There are approximately 150,000 seasonal farm workers in North Carolina. Together, migrant and seasonal farm workers and their families typically constitute the rural poor in the southeastern agricultural counties of the state. It is estimated that farm workers have approximately 320,000 dependents (Garrett and Schulman, 1988). Although there has been considerable attention to the safety, health, and labor practices associated with agricultural labor by adults, less is known about the effects of this lifestyle on children. Thus, this constitutes the main goal of the present study, namely, to assess the prevalence of mental health problems among children of migrant and seasonal farm workers.

The living and working conditions of farm workers are notoriously unhealthy. For example, agricultural labor is one of the most hazardous occupations in the United States (National Safety Council, 1986); working conditions in the field are not only unsafe, but unsanitary. Children employed in agricultural labor are not protected from these working conditions. In fact, labor

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requirements under the Fair Labor Standards Act, compared with the Federal Child Labor Requirements in Nonagricultural Occupations, have a lower minimum age standard (as young as 10 years of age to hand-harvest short-season crops) and no hours-time standards. As a result of these more lax child labor laws for children employed in agricultural labor, farm worker children often work long hours at young ages in the field while attending school, if they attend school at all.

Migrant labor camps and the temporary housing for most migrant families typically violate both housing codes and Occupational Safety and Health Administration standards (Mobed et al., 1992). Given these living and working conditions, it is not surprising that migrant children have a higher than average prevalence of hospitalizations and chronic illnesses than other children in the United States (Guendelman and Schwalbe, 1986; Slesinger et al., 1986). Recent estimates suggest that only about 60% of migrant children are adequately immunized for childhood illnesses (Gergen et al., 1988). The dietary intake of migrant women and their families has been found to be below standards for calories, protein, and iron (Cardenas et al., 1976). The prevalence of iron deficiency is high among migrant children (Ratcliff et al., 1989). Other serious health problems with higher prevalence rates among migrant children than children in the general population are tuberculosis (Jacobson et al., 1987) and parasitic diseases (Edwards, 1988). Thus, children of farm workers live with constant stress due to their poor health status, parents' uncertain employment, poverty, unsanitary living conditions, and inadequate medical and social services.

Children of migrant farm workers have the additional stress of a migratory lifestyle. Migrant children never stay in one place long enough to become an integrated part of a community or school. They constantly leave behind new friends and have little experience of home or owning possessions. They are frequently ostracized and labeled by the stable community of parents and peers as undesirable and inadequate playmates. Migrant children are at high risk for child maltreatment according to the reports of migrant educators (Larson et al., 1987) and archival child protective services records (Alvarez et al., 1988). Given their high rates of exposure to multiple forms of chronic stress, high rates of psychopathology were expected to be observed among children of farm workers.

Despite these predictions for children of migrant farm workers, past research findings on the effects of migration, per se, on children provide an inconsistent picture of the impact of residential mobility on children's functioning. Some researchers have reported negative effects of school mobility on grades (Levine et al., 1966) and social anxiety and peer relationship problems (Patterson et al., 1991; Vernberg et al., 1992), while others have found little or no relation between school mobility and academic adjustment (Collins et al., 1974; Downie, 1953) or emotional problems (Pederson and Sullivan, 1964). Some researchers have even reported a positive relation between school adjustment and mobility (Greene and Daughtry, 1962; Kroger, 1980). One interpretation of these discrepant findings is that the negative effects of mobility on children are exacerbated by the added stress of poverty (Ostrow et al., 1981). With sufficient income, mobile children may have the resources available to them to cope effectively with multiple life transitions. In general, there has been little investigation of the combined effects of poverty and mobility on children's psychiatric adjustment. Notably, recent studies on high-risk samples of urban homeless children who are both poor and have high rates of residential mobility suggest that they have high rates of psychopathology (Holden et al., 1995).

Research on migrant farm work has focused primarily on adults or on the physical health, nutritional status, or school achievement of the children. Reports on the psychiatric functioning of rural children, particularly children of migrant farm workers, are rare or have used nonempirical methods. For example, Coles (1965), using the case study method, intensively studied the functioning of children from 10 black and white migrant farm worker families. He reported high levels of psychosomatic disorders but few other psychological problems among these children. In contrast, Henggeler and Tavormina (1978) reported that Spanish-speaking children of migrant farm workers had lower IQs, lower academic achievement test scores, poorer self-concept, and more of an external locus of control than clinical and nonreferred black children matched for age, sex, and socioeconomic status. Several differences between the two reports are that Henggeler and Tavormina (1978) used standard psychological measures, whereas

Coles (1965) relied on clinical observations and unstructured interviews. Also, Henggeler and Tavormina (1978) compared farm worker children with other rural children, whereas Coles (1965) had no comparison group. These findings suggest that migrant children have more academic and self-concept problems than do children who are relatively comparable in family income but who do not migrate. No studies were located that empirically examined the psychiatric adjustment of migrant farm worker children. Investigation using language-appropriate, standard psychiatric measures and a nonmigratory rural comparison group was needed.

In addition, the literature was reviewed for comparison data on the mental health of children of seasonal farm workers, because seasonal children are comparable with migrant children in many ways, except that they have not moved in the preceding year. Only one study was located that addressed the psychological adjustment of rural children, and the method did not specify the occupational status of the parents of the children who participated in the study (Schultz et al., 1974). Also, only gender and grade effects on individual items on a teacher rating scale were evaluated by Schultz et al., and *DSM-III-R*–defined psychiatric disorders were not examined. Thus, the prevalence of mental health problems among children of seasonal farm workers or rural nonmigrant children also is not well-known.

This present article reports on the results of a pilot study of 110 children of migrant or seasonal farm workers living and working in North Carolina. The primary goal of the study was to assess the prevalence of psychiatric disorders in 8- through 11-year-old children of migrant and seasonal farm workers. In addition, the effects of sex, ethnicity, and the family's migratory status on having one or more psychiatric diagnoses were evaluated.

METHOD

Subjects

Participants included 110 children, aged 8 through 11 years (mean age of 9.4 years; SD = 1.2 years), and their biological mothers. There were 55 boys and 55 girls, 54 migrant and 56 seasonal children, 16 blacks and 94 Hispanics. A migrant farm worker child was defined as a child who had moved with a parent within the previous 12 months across state or school district boundaries to enable the parent or other family member to obtain temporary or seasonal employment in an agricultural activity. A seasonal farm worker child was defined as a child whose parent was employed in an agricultural activity but who had not migrated in the previous year.

Procedures

Study participants were recruited through a sampling approach in which every major agency that served migrant or seasonal farm worker families in the four participating counties in southeastern North Carolina (i.e., Sampson, Harnett, Johnson, and Nash counties) were contacted for assistance in locating farm worker families. These included the Tri-County Community Health Center, four county school systems, local churches, and state and local agricultural and employment agencies. Most children in this study were located through the four federally supported Migrant Education Programs operating in the four participating school districts. Agency outreach workers were very helpful in finding farm workers' homes because many homes had no street address or could not be located on standard maps. Many homes and labor camps in more remote rural areas were difficult to locate. Also, labor camps are often hidden from the view of the road, being behind a grove of trees or set back at the end of a dirt road in the back of a field.

Based on this recruitment procedure, a total of 174 mothers were located and contacted across the two study periods. Of these families, 89% (154 families) consented to participate in the study; however, interviews were conducted with only 64% (or 112) of the eligible families for a variety of reasons. These reasons included the fact that some consenting families were not at home at the scheduled time for the interview, interviewers could not find some of the homes, one migrant labor camp felt too dangerous to the interviewers, and some families had migrated between the time they agreed to participate in the study and the date of the scheduled interview. Also, interviews could not be completed with two of the consenting families because one child was mentally retarded and one family spoke only an Indian dialect from Mexico.

Mothers and children were interviewed in the language of their choice, either Spanish or English. All consent forms, instructions, and measures were translated into Spanish and independently back-translated into English by two bilingual Mexican adults. Both translators had extensive experience working with farm workers in the farm worker health clinic, so that they were familiar with the farm workers' language ability and use of idioms.

Individual interviews with participating mothers and children were conducted in participants' homes during two consecutive summers in order to coincide with the time during which the largest influx of migrant farm workers and their children lived in North Carolina. Interviewers drove an average of 117 miles to farm workers' homes to conduct interviews.

All interviewers were females and most were fluent in both English and Spanish. Interviewers traveled in pairs, which allowed for the parent and child interviews to occur simultaneously such that one staff member interviewed the mother while the other staff member interviewed the child. Sometimes a third staff member accompanied the pair to help entertain younger children in the family, so the mother could concentrate on the interview. The mean duration of the child interview was 2 hours, 40 minutes (SD = 45 minutes) and the mean duration of the mother interview was 2 hours, 45 minutes (SD = 45 minutes).

Refreshments (e.g., cold juice and snacks) were provided during the interview. Also, mothers were paid for their participation in the study and children were given a small educational gift.

No two children were interviewed from the same mother. When there were two eligible children in a family in the designated age

range, the target child was randomly selected to participate in the study.

Measures

Mothers and children received an extensive introductory interview regarding sociodemographic information about the index child and the family, as well as the residential history of the family.

At the conclusion of each interview, the mother and child interviewers independently completed a postinterview measure containing 11 items about the home or migrant labor camp living conditions. The percentage of agreement between the mother and child interviewers on each item was calculated and ranged from 58% to 93%, with the mean percentage of agreement across all items being 76%. There was statistically significant agreement between mother and child interviewers on all but two items (e.g., toys or books in the home) as assessed by the κ statistic. Differences in reports on these items may have occurred because some interviews were conducted in the yard outside of the home, because of the extreme heat inside of the homes or for privacy reasons, particularly if the family lived in a single room. Because of this difference in location of the interview, some of the interviewers may have not had much time to observe the inside of the home.

The presence of a psychiatric disorder in migrant and seasonal farm worker children during the preceding 6 months was assessed using the National Institute of Mental Health (NIMH) Diagnostic Interview Schedule for Children Version 2.1 (DISC-C) as well as the parallel interview for the parent (DISC-P) (Fisher et al., 1990; Shaffer et al., 1993). Spanish translations of these two DISC interviews were obtained from the NIMH Field Trials site in Puerto Rico. The DISC was developed for use in epidemiological studies and was designed to be administered by trained interviewers who were not mental health professionals. The DISC has been demonstrated to have adequate reliability and validity for this purpose (Costello et al., 1985; Edelbrock et al., 1985; Fisher et al., 1993; Jensen et al., 1995). Children were classified as having a psychiatric disorder on the basis of the currently available scoring algorithm for the DISC, where information from different sources was pooled at the criterion level rather than at the diagnostic level (Cohen et al., 1987b; Fisher et al., 1993). In addition, children were also classified as having a diagnosis according to child report only or mother report only.

Because of the length of the overall interview and the age of the sample, only five diagnostic modules were used: anxiety, affective, elimination, and disruptive behavior disorders, and posttraumatic stress disorder. The diagnostic criteria used for these disorders are specified in *DSM-III-R* (American Psychiatric Association, 1987).

Overall agreement for each disorder between mother and child reports is examined in Table 2. As is typically found in studies using parent and child informants, there was minimal overlap between the mothers' and children's reports of disorder in the sample. The prevalence rate reported from the combined algorithm was greater than the sum of cases reported by the separate mother or child reports, so that the remainder of this article uses the diagnostic algorithm of either child or mother report.

RESULTS

Overview

First, descriptive statistics were used to examine the characteristics of the participating children and their families, stratified by the migration status of the family (migrant versus seasonal farm worker family). Next, the prevalence of each type of psychiatric disorder among the children was computed. These prevalence estimates are reported for the children of migrant farm workers, the children of seasonal farm workers, and all children who participated in the study. For each of these three groupings of children, prevalence estimates were calculated on the basis of child report only, mother report only, and combined mother and child interviews. Crude (unadjusted) odds ratios (ORs) and 95% confidence intervals (95% CIs) were used to examine bivariate relationships between each psychiatric disorder and the demographic characteristics of gender, ethnicity, and the families' migration status.

Demographic Characteristics of Sample

Table 1 describes the characteristics of the mothers, fathers, and children in the study as well as the living conditions of the participating families. Almost two thirds of the mothers and fathers were born outside of the United States, predominantly in Mexico. Almost two thirds of the children lived in two-parent homes. The remainder of the sample resided with their mothers in single-parent households. The average number of persons living in the household was 6.7. The average number of people living in the migrant labor camps was 24, with the size ranging from 4 to 100. More than half of the parents had little or no education and almost one third of the children had missed significant amounts of school as well. There was an intergenerational pattern of grandparents, parents, and index children working as agricultural laborers, with 50% of the children already having done farm work.

Most migrant children were living with their families in migrant labor camps at the time of the study. These migrant camps were located on the property of their employers, the farmers or "growers." Descriptions of the living conditions of the children can be found at the bottom of Table 1. All of the homes and labor camps were sparsely furnished, and more than half were unclean and unsafe (e.g., rotten boards on porches, no screens on windows). Many of the children had observable head lice and in about one third of the homes, bugs such as cockroaches and spiders were apparent. None of the families had air conditioning and many did not have indoor plumbing or they had to share a communal bathroom facility. Many of the

TABLE 1
Characteristics of Sample

Characteristic	Migrant	Seasonal	Overall
Mother			
Parents were migrant farm workers	61	39	50
Worked in past 2 weeks	62	47	54
Not born in U.S.	63	63	62
Had no schooling	11	5	8
Had less than 8th-grade education	57	52	54
Father			
Not born in U.S.	70	67	68
Had no schooling	6	13	9
Had less than 8th-grade education	62	65	63
Child			
Lives with both biological parents	72	55	64
Did not go to school all of last year	38	21	30
Worked full- or part-time	21	24	23
Has done farm work	48	53	51
Worked in the summer	79	70	74
Worked during the school year	23	10	15
Living situation			
Home not clean	65	48	55
Home not organized or tidy	59	54	56
Home smelled bad	31	29	30
Loud TV or radio during interview	44	48	46
Visible health hazards in home	30	30	30
Visible insects or rodents in home	35	36	35
Alcohol/drug use evident in home	13	13	13
No toys visible in home	37	20	28
No books or magazines in home	65	68	66
Camp or outside of home not clean	67	64	65
Observed camp members drinking or using drugs	15	5	10

Note: Values represent percentages.

mothers reported that the camps were unsafe because of disrepair or the drug or alcohol problems of the other camp members. Most families lived in a single room, resulting in few homes having any indoor common space for children to play. There was little evidence of educational activities (e.g., books, magazines, games, toys) in the homes of two thirds of the participants.

Seasonal farm workers lived in homes that were similar in many ways to the homes of migrant farm workers. The primary difference between the two groups was that migrant farm workers tended to live in larger labor camps, whereas seasonal workers were more likely to live only with their nuclear or extended family.

Prevalence Estimates of Disorders in Total Sample

Of the 110 children who participated in the study, 72 children, or 66% of the sample, met criteria for one or more of the psychiatric disorders examined in the study. The most common diagnosis was an anxiety disorder (Table 2). Three types of disorders were found with equal frequency in the sample, namely, attention-deficit hyperactivity disorder (ADHD), affective disorders, and disruptive behavior disorders. Elimination disorders and posttraumatic stress disorder were rare in this sample.

Demographic Correlates of Disorders

The prevalence of each disorder was examined by gender, ethnicity, and migration status of the family (migrant versus seasonal families).

Rates of disorders did not vary, for the most part, as a function of the parent's occupation being migrant versus seasonal farm worker. There was a marginally significant difference for anxiety disorders. Seasonal children were somewhat more likely than migrant children to have an anxiety disorder (68% versus 50%, respectively; OR = 0.50, 95% CI = 0.2, 1.0); however, this relationship was of borderline statistical significance. Also, a larger percentage of seasonal farm worker children than migrant farm worker children had one or more diagnoses; however, the difference did not reach statistical significance (71% versus 59%, respectively).

Most rates of disorder did not vary by gender. There was a marginally significant gender difference for having an affective disorder. Girls (15%) were more likely than boys (4%) to have an affective disorder. More specifically, girls were more than four times more likely than boys to have an affective disorder (OR = 4.5, 95% CI = 1.0, 20.0).

The prevalence of each disorder was compared for each ethnic group within the sample. There were marginally significant differences by ethnicity for having a simple phobia and a social phobia. Black children (69%) were more likely than Hispanic children (45%) to have a simple phobia (OR = 2.7, 95% CI = 0.9,

TABLE 2
Prevalence of Occurrence of Specific Disorders

Disorder	Migration Status of Farm Worker Family							
	Migrant			Seasonal			Total Sample	
	Child[a]	Mother	Either	Child		Either	Child	Either
Anxiety disorders	35.2	31.5	50.0	42.9	39.3	67.9	39.1	59.1
Simple phobia	26.9	25.9	42.6	25.5	34.6	53.6	26.2	48.2
Social phobia	9.3	9.3	16.7	14.3	8.9	23.2	11.8	20.0
Agoraphobia	13.2	7.4	16.7	16.4	5.4	19.6	14.8	18.2
Separation anxiety	9.3	1.9	9.3	12.5	3.6	19.6	10.9	14.5
Overanxious	3.7	7.4	13.0	7.3	8.9	14.3	5.5	13.6
Avoidant	3.7	5.6	13.0	1.8	5.5	7.1	2.8	10.0
Generalized anxiety	1.9	0.0	1.9	0.0	1.8	1.8	0.9	1.8
ADHD	1.9	7.4	9.3	5.4	5.4	8.9	3.6	9.1
Disruptive behavior	3.7	3.7	7.4	3.6	7.1	10.7	3.6	9.1
Oppositional defiant	3.7	3.7	7.4	3.6	3.6	7.1	3.6	7.3
Conduct	0.0	0.0	0.0	1.8	3.6	3.6	0.9	1.8
Affective disorders	3.7	1.9	5.6	12.5	1.8	12.5	8.2	9.1
Dysthymia	3.7	1.9	5.6	10.7	1.8	10.7	7.3	8.2
Major depressive	1.9	0.0	1.9	9.1	1.8	8.9	5.6	5.5
Elimination disorders	1.9	1.9	1.9	5.4	3.6	3.6	3.6	2.7
Enuresis	1.9	1.9	1.9	5.4	3.6	3.6	3.6	2.7
Encopresis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PTSD	0.0	0.0	0.0	3.6	0.0	3.6	1.8	1.8
One or more	38.9	37.0	59.3	48.2	48.2	71.4	43.6	65.5

Note: ADHD = attention-deficit hyperactivity disorder; PTSD = posttraumatic stress disorder.
[a] Informant.

8.2). Black children (38%) were also more likely than Hispanic children (17%) to have a social phobia (OR = 2.9, 95% CI = 1.0, 8.9). There were significant differences by ethnicity for having a major depressive disorder and ADHD. Black children (19%) were significantly more likely than Hispanic children (3%) to have a major depressive disorder. Specifically, they were seven times more likely than Hispanic children to have a major depressive disorder (OR = 7.0, 95% CI = 1.5, 31.8). Finally, black children (38%) were significantly more likely than Hispanic children (4%) to have ADHD. Specifically, black children were 13 times more likely than Hispanic children to have ADHD (OR = 13.5, 95% CI = 4.1, 44.8). The strength of these associations should be interpreted with caution because of the small sample sizes, which resulted in extremely wide confidence intervals.

DISCUSSION

The results from this pilot study suggest that the rates of mental health problems among children of migrant and seasonal farm workers exceed the national estimates for the general population of children in the United States based on data collected in other community surveys using similar instruments (Anderson et al., 1987; Bird et al., 1988; Cohen et al., 1987b; Costello et al., 1988). In fact, the findings from this study stand in stark contrast to the findings recently reported in a multisite study of the prevalence of mental health problems among community populations of children and adolescents. The farm worker children in this study were two or more times more likely than community children to have a simple phobia, separation anxiety, avoidant disorder, generalized anxiety disorder, social phobia, agoraphobia, and dysthymia (Shaffer et al., 1996). These findings are striking, particularly given the young age of the children who participated in this study. Clearly, rural children of farm workers constitute a high-risk sample for serious psychiatric problems and are in need of mental health services.

Given the additive stressors of chronic poverty and chronic homelessness in the migrant farm worker population, we expected to find significant differences in functioning between the migrant and seasonal farm worker children. In addition, due to other risk factors

associated with these stressors such as parental mental illness, prior health difficulties, child abuse or neglect, parental alcoholism, and current poor health, migrant children were expected to be more severely compromised in their psychiatric functioning than seasonal children. Somewhat surprisingly, few differences were observed between the two groups of migrant and seasonal farm worker children.

One explanation for these findings is that the negative effects of chronic poverty and other correlated stressors may be so powerful that residential mobility did not discriminate between migrant and seasonal children. A second explanation for the relative similarities between the groups is that seasonal children also may have experienced relatively recent residential mobility; however, by definition, this moving had not occurred in the previous year. Third, few differences were observed between the migrant and seasonal groups in terms of parents' education, family demographics, and living conditions. Theoretically, seasonal children were an excellent comparison group for migrant children. However, based on the present findings, both groups of children appear to be at extremely high risk for mental health problems, and only minimal incremental risk was associated with residential mobility in the present study.

Unusually high rates of anxiety disorders were observed among children in the sample. Perhaps rates for these disorders were elevated due to the adverse living conditions of the children in the sample and may constitute a normal response to exposure to this stressful, uncertain, and impoverished lifestyle. These findings are consistent with reports that high levels of stress are associated with anxiety and depression in children (Cohen et al., 1987a; Compas et al., 1989; Haddad et al., 1991; Spencer, 1986).

It is somewhat surprising that black farm worker children had more psychiatric problems than Hispanic farm worker children. This finding was in contrast to a prior study of a clinical sample of children, which reported that Hispanic children had more emotional disturbances and more problematic peer relations than black children (Canino et al., 1986). Perhaps the effects for ethnicity in the present study reflect both differences in risk exposure as well as cultural and family differences in the sample. For example, the black children in the sample were more likely than the Hispanic children to live in single-parent, mother-headed households. Because the Hispanic children in the sample were more likely to live in extended families, Hispanic parents may have been provided with additional parenting support from other adult relatives. Thus, Hispanic children may, in turn, have been exposed to relatively more monitoring, supervision, and adult involvement than the black children in the sample. This additional support to parents and children may have served as a protective factor against chronic stress exposure. This hypothesis will be examined in future research on this population. In addition, it must be emphasized that very few black children participated in this study; therefore, the representativeness of such a small sample of children may be open to question.

In addition, one might suspect that the longer children have to cope with the chronic stressors of poverty and residential mobility, the more impaired they will become. Thus, extending this research to include the examination of psychiatric problems in an older, adolescent sample as well as replicating the current findings reported for children and preadolescents may be important in developing a comprehensive picture about the effects of exposure to these risk factors on psychiatric functioning. Optimally, this research would be conducted within the context of a longitudinal design where families would be tracked across time and space by giving them pagers or by getting an "800 number" for the project so that mothers could easily contact the project office as they migrate. Although the ethnic composition of the farm worker population in the Southeast is evolving to resemble the predominance of Hispanic farm workers found in the western United States, the present findings underline the importance of assessing black as well as Hispanic farm worker children in future studies.

This investigation was designed as a pilot study because of the difficulties inherent in sampling and studying a migratory population in epidemiological research. This type of research presents the added challenge, and potential burden, of sampling homes (e.g., labor camps) of the migrant population both in time and in space. The procedures and feasibility of conducting this type of research lacked a clear precedent in the literature. Methodological problems encountered in studying homeless families have been recently described (see Holden et al., 1995, for review); however, some problems are unique to studying rural migratory populations.

One sampling strategy we considered was to focus sampling efforts entirely on children enrolled in the participating Migrant Education Programs. However, we did not know whether there would be a substantial number of migrant children who did not attend school, worked in the fields, and, consequently, might be more severely impaired than children whose parents allowed them to attend school. To avoid biases from recruiting only children enrolled in school, the catchment area was combed for other referral agencies to assist staff in locating families. This saturation of all of the agencies in each county resulted in staff being able to assess this problem. Notably, only a handful of children were located who were unknown to the Migrant Education Program outreach workers. Despite the presence of this small percentage of nonattenders, the most cost- and time-effective sampling strategy for the future study of migrant children would be to work in conjunction with preexisting Migrant Education Programs. These programs have extensive knowledge of and ties to the community, and the programs employ indigenous outreach workers who are continuously sampling the catchment area in both time and space to enroll and register currently and previously migratory children.

Another methodological issue similar to problems faced in conducting research in the inner city involved the safety of interviewers. Migrant labor camps can be quite dangerous places, particularly at night and on the weekends (e.g., some crew leaders keep control of their labor camps by selling alcohol, drugs, and prostitutes to their crew at night and on the weekends). Interviewers worked in teams of two or three when visiting all migrant labor camps and homes; they conducted interviews during daylight hours only; and they conducted interviews between Monday mornings and Thursday afternoons only. The complications involved in conducting this type of study may partially explain why migrant children have been so rarely studied in the past.

Despite the small sample size, a representative and comprehensive sampling of all 8- through 11-year-old farm worker children was attempted within the catchment area of the study. Although substantial efforts were made to locate and interview all eligible children and their mothers, it is impossible to know whether all eligible mothers were indeed contacted. Given the small sample size, firm conclusions cannot be drawn about the prevalence rates of disorders in this population.

Nonetheless, the findings from this study are alarming given that two thirds of the children in this sample had at least one serious mental health problem. These findings also are disturbing in light of the fact that fewer than half of the farm worker children with a psychiatric diagnosis saw a health professional for their mental health problems (Martin et al., 1996). Taken together, the results suggest the need for more comprehensive and larger epidemiological investigations of the functioning of farm worker children. In addition, future research should be expanded to include both qualitative and quantitative studies of the subjective experience of being the child of a migrant or seasonal farm worker, as well as the examination of additional risk and protective processes that may mediate mental health outcomes for these children.

The clinical implications of these pilot findings suggest the importance of the development of preventive and therapeutic intervention programs that will provide mental health services to rural, poor children. These findings also suggest that chronic exposure to high levels of stress may be so debilitating to children's psychological development that few children may emerge as resilient adults from these populations.

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