

*Special Topics:
From Child to Adult*

Chapter 7

Chapter 7—Special Topics: From Child to Adult

After Children's Services

Introduction

The transition of consumers of children's services into the adult world has been recognized as a critical area of concern for some time (Nisbet, Covert, & Schun, 1992). It has also been recognized as an area of weakness in most systems of care for children and adolescents with severe emotional disturbances. In Vermont, we speak of a concern that young people "fall through the crack." The graph of the age distribution of people served by community mental health programs in Vermont during 1998 (Figure 1) provides a clear picture of "the crack." Clearly, young people aged 18 to 25 are less likely to receive services than people in other age groups.

This study examines treatment outcomes during these critical transition years for young people who received services from community mental health programs, the state child protection and juvenile justice agency, and/or special education programs for young people with emotional behavioral disorders. The study will focus on young people served by these programs when they were seventeen years of age, and will measure outcomes over subsequent years. The treatment outcomes that will be examined include incarceration (for boys), maternity (for girls), and hospitalization for behavioral health care (for both boys and girls). Unlike most outcome measures in children's mental health which tend to be short term and clinical in focus (Rosenblatt, 1998), this research has a longer term of focus (three years) and is oriented toward community functioning.

Method

The findings reported here are based on the analysis of data from existing data bases using the method of Probabilistic Population Estimation. Probabilistic Population Estimation allows researchers to determine the number of people represented in data sets that do not include personal identifiers, and to determine the number of people shared across data sets that do not share personal identifiers. The estimate is based on comparison of the distribution of dates of birth in the general population with the distribution of dates of birth in the data sets (Banks & Pandiani, 1998, 1999; Banks, et al. 1998; Pandiani, Banks, & Schacht, 1998a, 1999). Because this measure relies on existing data bases, it does not require the commitment of substantial amounts of staff time, and it is possible to evaluate changes in systems of care that have occurred in the past. Also, the confidentiality of medical records is protected (Pandiani, Banks, & Schacht, 1998b).

Seven anonymous data sets were used in this analysis. Data sets obtained from the state mental health authority, child protection and juvenile justice agency, and education department provided basic demographic information on all children and adolescents served during 1993–1995. Data sets obtained from the state correctional department, health department, and social welfare agency provided information on our outcome measures.

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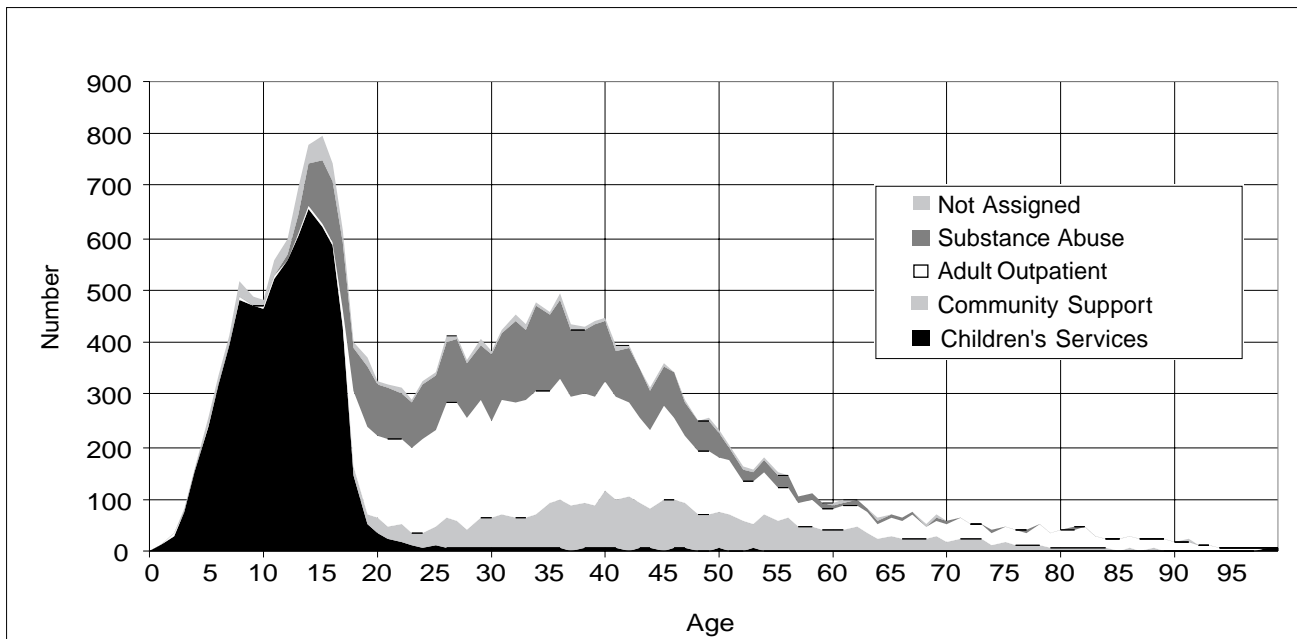
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Figure 1
Number of Individuals Served by Community Mental Health Programs
by Age and Program Assignment: FY 1998



Results

Incarceration Rates (for boys)

Approximately 27% of the boys who had been served by at least one of the three agencies under examination when they were 17 years of age were incarcerated in the state of Vermont during the next three years. During this same time period, 6% of boys who were in the same age group but had not received services were incarcerated. Boys who had been served in this system of care were 4.9 times more likely to be incarcerated than other boys.

Boys who had been served by the state child protection and juvenile justice agency had the highest incarceration rate (38%), followed by boys served by the special education programs (34%), and boys served by the community mental health programs (21%).

Maternity Rates (for girls)

Approximately 23% of the girls who had been served by one of the three agencies when they were 17 years of age had given birth during the next three years. During this same time period, 14% of girls

who were in the same age group but had not received services had given birth. Girls who had been served in the system of care were 1.7 times more likely to have babies than other girls in the same age group.

Girls who had been served by the state child protection and juvenile justice agency had the highest maternity rates (33%), followed by girls who had been served by the community mental health programs (21%) and girls who had been served by the special education programs (21%).

Hospitalization for Behavioral Health Care (boys and girls)

Approximately 5% of the young people who had been served by these community programs when they were 17 years of age were hospitalized for behavioral health care over the next two years. During this same time period, less than 1% of young people who were in the same age group but had not received services were hospitalized for behavioral health care. Young people who had been served in the system of care were 8.3 times more likely to be

hospitalized than other young people in the same age group.

Young people who had been served by the community mental health programs had the highest hospitalization rate (8%), followed by young people who had received special education services (5%), and clients of the child protection and juvenile justice agency (3%).

Implications

In the past, evaluation of children's services programs has tended to focus on program values and practices, rather than outcomes, to identify promising models of service delivery (Clark, Unger, & Stewart, 1993). The methodology used in this study provides the opportunity for researchers to complement this focus with an outcomes based evaluation strategy that can provide valid and reliable measures of program performance. Probabilistic Population Estimation makes outcomes research much more economical than approaches that rely on new data collection; it can identify historical trends and protect personal privacy. Perhaps most importantly, this methodology provides for the measurement of long term functional outcomes that can include indicators of positive outcomes such as education and employment in addition to less favorable outcomes such as those examined here.

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Filling in the Gaps: Funding Services to Support Youth and Young Adults as They Transition into Adulthood

Introduction

The purpose of this study is to identify the various funding sources used by programs which serve and support youth and young adults with emotional and/or behavioral difficulties (EBD) as they transition into adulthood. Funding mechanisms for this population are limited due to the difficulty in serving a population that does not fit neatly into any current service category. By conducting this study we anticipate being able to acquaint other practitioners, advocates, administrators, and policymakers with the types of funding mechanisms that transition programs are tapping for various types of services and supports, thereby setting the occasion for these program personnel to explore similar means of more adequately serving their transition-aged young people.

Methods

This study is being accomplished by surveying program personnel at sites in Florida and nationally who are serving this target population. The telephone interview survey instrument provides for a semi-structured, open-ended interview which is designed to learn: (a) the range of services and supports that are typically used in serving the needs of these young people; and (b) what funding mechanisms are being used to secure these supports and services across the transition domains of employment, educational opportunities, living situation, and community life adjustment. The results presented here are preliminary in that they are based on the first 18 sites on which partial or complete surveys have been conducted.

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The results from this study are being prepared for inclusion in a web site and for a chapter by Cliff Davis, et al, which will appear in H. B. Clark and M. Davis, Eds., (2000, April). *Transition to adulthood: A resource for assisting young people with emotional or behavioral difficulties*. Baltimore, Maryland: Paul H. Brooks, Company.

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Results

The first eighteen agencies surveyed identified more than 40 discrete funding sources, including:

- (a) five federal programs (e.g., Medicaid, Joint Training and Partnership Act) which may each have several components under which funding might be obtained (e.g., three programs from the U.S. Department of Housing and Urban Development – McKinney Homeless Grants, Community Development Grants, and “Youth on the Streets” Grants);
- (b) six state categorical systems (i.e., child and adult mental health, child protection, health, juvenile justice, education) that directly or indirectly support services for portions of this population; and
- (c) dozens of local sources (e.g., community charitable organizations, foundations, county-determined grant and allocation programs, local college funds) which can be organized into almost a dozen types of fund sources. At all levels, multiple funding sources and mechanisms were identified.

No more than 6 of the 18 surveyed agencies make use of any one of the named fund sources, with most fund sources used by only two or three agencies. This distribution amplifies the point that every agency and community utilizes different resources to meet the needs of the young people in this transition-aged population. The most commonly employed source is private funds, such as those obtained through charitable giving (e.g., United Way) or from private businesses that choose to support efforts on behalf of this population. This is a critical survey finding because it underscores two facts: 1) the major public funding sources are virtually blind to this population, and 2) communities and agencies trying to serve the population rely first on highly variable private sources to fill that void. The results of the entire survey will be available in detail by Summer 2000 at the following website: www.fmhi.usf.edu/cfs/policy/tip/tip.php.htm.

Discussion

For the population of young people with mental health needs and all those who care about those individuals, there is good news and bad news in the survey results. On one hand, the survey shows that an agency or group of agencies with a commitment to serving youth and young adults with emotional or behavioral difficulties can find ways to at least partially fund some level of services and/or supports. Each agency employs a different combination of funding sources, drawing from among a host of funds with some flexibility to support the wide range of needs of this population. Each agency offers a different combination of services and supports, uniquely tailored to the needs of their clientele and community and to the resources available.

On the other hand, the set of survey responses describes no obvious, single source or pathway for other agencies and communities interested in establishing such services and supports. Services explicitly responsive to the unique needs of these young persons have no single or primary fund source, and most of the surveyed agencies manage a unique, changing portfolio or patchwork of funds with numerous and complex eligibility requirements related to age, type of need, severity, income, and/or educational status.

Those agencies and communities now offering transition services and supports are the pioneers blazing a trail to be followed and improved upon in the future. As more communities respond to the needs of this population, funding mechanisms can be expected to shift and evolve to become more like other fund streams used to meet the needs of persons with emotional or behavioral difficulties. However, this will occur only through well orchestrated and persistent advocacy efforts on the part of parents, young people, program personnel, researchers, and administrators.

Psychosocial and Economic Factors Affecting Chronically Ill Children in Managed Care

Introduction

Over the last four decades the focus of visits to primary pediatric care settings have shifted from the treatment of acute illness to the treatment of chronic conditions and the management of psycho-social problems (Jones, 1996). The frequency and prevalence of psycho-social issues are of great concern to the health care system as identification of these disorders allows for the expedient provision of treatment. Epidemiological studies indicate that 5-15% of school-aged children have psychiatric disorders (Bishop, Murphy, Jellinek & Dussealt, 1991; Yarrow, 1998). Children with chronic illness have consistently been reported to have a higher psychosocial risk (Caninng, Hanser, Shade & Boyce, 1993; Lozano, Fishman, VonKorff, & Hecht, 1997; Newacheck, & Taylor, 1992; Wallander & Thompson, 1995)

Method

The study was conducted in six sites within the Northern California region of a non-profit health maintenance organization. Using the HMO's centralized clinical data tracking system, each parent and child's number of health and mental health care visits and the consequent costs during the year previous and six months subsequent to screening were documented. The study was conducted in the waiting rooms of the Pediatrics departments. All parents of patients meeting eligibility criterion were enrolled after informed consent was obtained. All Physicians and Pediatric Nurse Practitioners at each of the six sites agreed to participate in the study ($N = 185$).

Measures

Chronic Illness. The presence of chronic illness was determined in two ways. Parents were asked to report a serious or chronic illness suffered by the child. Objective criteria was based on chart review utilizing a comprehensive list of chronic illness diagnostic criteria developed by ACG i.e. asthma, diabetes, and cancer as well as severe acute conditions such as head injuries (Starfield, 1991). For purposes of statistical analysis chronic illness is defined by the objective criteria.

Beck Depression Inventory (BDI: Beck, 1961). The BDI is a 21 item inventory, that is valid and highly reliable, with each item scored on a four-point scale indicating the presence and severity of depressed feelings, behaviors and symptom. Parents with cut off scores of 19 and above were classified as depressed.

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Pediatric Symptom Checklist (PSC) (Jellinek, 1986). The PSC is a 35 item questionnaire that is normed for children 2-18 years of age. This is a well-validated parent completed questionnaire that consists of 35 items that are rated as never, sometimes or often present. Item scores are summed and the total score is recorded into a dichotomous variable indicating psychosocial impairment. For children 6 through 18 years the cut-off score is 28 or higher, and for younger children the cut off is 24 or higher. The PSC has been validated for minority and economically disadvantaged populations (Murphy, 1988).

Cost and Utilization

Data was obtained from the general ledger included all services provided i.e. outpatient registrations, pharmacy, laboratory and radiological procedures etc. for the child and the accompanying parent. Cost information from the general ledger was allocated using the Cost Management Information System, a purchased cost accounting software that integrates cost and utilization.

Results

Although 1840 parent/child dyads were enrolled in this study, only 1669 could be utilized for statistical analysis given partial enrollment data (under six months). Demographic characteristics of the sample are presented in Table 1. 18.6% of the total sample met criteria for chronic illness. Parental report included 14.4% of the total sample. Chronic illness was equally distributed among the BDI positive and negative children. The children of BDI positive parents had higher PSC scores than the children of BDI negative parents, as the mean PSC scores reveal in Table 2 ($t = 6.68, p < 0.001$). When repeating this analysis but stratifying for the child's chronic illness status using the chart review identification of chronic illness, the difference in PSC scores was greater among the chronically ill children. ($t = 4.31, p < 0.001$). Both tests were performed under the assumption of unequal variance.

When evaluating the PSC scores of the children whose parents were BDI positive, the chronically ill children had higher PSC scores than their non-chronically ill counterparts. The difference in average PSC scores was statistically significant, $T = 2.62, p < 0.02$, chi square test performed under assumption of unequal variance (see Table 2).

Results from multiple regression models indicate that chronically ill children were the higher utilizers of outpatient services. However the psychosocial morbidity of the child and parent, as measured by the PSC and BDI had a statistically significant impact. A 0.1 predicted increase in parental primary care visits occurred for each point above the clinical cut-off score on the BDI for the child of the depressed parent. For each BDI additional point \$24 were added to the predicted cost of parental primary care utilization. Parents of children with chronic illness utilized their adult primary care services 1.6 visits per year over the average log utilization derived from the regression models (see Table 3).

Discussion

The finding that chronically ill children who were offspring of a BDI positive parent had significantly higher PSC scores than their non-chronically ill counterparts is of great interest. Maternal depression appears to be determined by multi-modal risk factors and is not univariately associated with specific diagnostic categories. (Walker, 1987). Numerous studies have found that parents of children with disabilities or chronic illness report increased levels of depression, anxiety and emotional distress when compared to mothers in control groups. (Wallander & Thompson 1990, Noojin & Wallander, 1996).

Chronically ill children have complex needs: physical, psychological, functional (Newacheck, 1992, Lozano, 1997). The high prevalence of psychosocial problems in those children demands that health providers continue to utilize techniques that allow the identification of those children who are in need of additional psychiatric treatment. This study indicated that an assessment can be easily administered in busy outpatient settings and is accepted by staff and parents as a routine adjunct to the pediatric visit. The importance of this study is the documentation of the impact of parental and child psychopathology upon primary care services. These results indicate that it is important to consider the psychological status of the parents as well as their offspring when assessing the needs of a chronically ill child. In doing so early identification and intervention may prevent displaced utilization for both.

Factors Affecting Chronically Ill Children in Managed Care

Table 1
Sociodemographics of the Sample (N=1840)

	Total Sample	PSC Positive	PSC Negative
Pre-school-age (2-5)	N = 758 (41%)	N = 99 (13%)	N = 659 (87%)
School-age (6-18)	N = 1082 (59%)	N = 140 (13%)	N = 942 (87%)
Parental Marital Status			
Single parent family	N = 478 (26%)	N = 91 (19%)	N = 387 (81%)
Two parent family	N = 1359 (74%)	N = 149 (11%)	N = 1210 (89%)
Parent's Education Level			
<High School	N = 95 (5%)	N = 18 (19%)	N = 77 (81%)
High school graduate	N = 239 (18%)	N = 36 (15%)	N = 203 (85%)
Some College	N = 684 (37%)	N = 89 (13%)	N = 595 (87%)
College graduate	N = 446 (25%)	N = 54 (12%)	N = 392 (88%)
Post graduate	N = 272 (16%)	N = 33 (12%)	N = 239 (88%)
Household Income			
<\$15,000	N = 147 (7%)	N = 37 (25%)	N = 110 (75%)
\$15,000-\$30,000	N = 326 (18%)	N = 49 (15%)	N = 277 (85%)
\$30,000-50,000	N = 492 (28%)	N = 64 (13%)	N = 428 (87%)
\$50,000-100,000	N = 638 (36%)	N = 77 (12%)	N = 561 (88%)
>\$100,000	N = 171 (10%)	N = 14 (8%)	N = 157 (92%)
Race			
African American	N = 207 (13%)	N = 35 (17%)	N = 172 (83%)
Caucasian	N = 815 (50%)	N = 98 (12%)	N = 717 (88%)
Hispanic	N = 281 (17%)	N = 39 (14%)	N = 242 (86%)
Asian	N = 224 (14%)	N = 22 (10%)	N = 202 (90%)
Native American	N = 48 (3%)		
Other	N = 48 (3%)		

Table 2
Mean PSC Score of Child by BDI Positive Parent

	N	Mean	Standard Error
BDI positive parent	70	24.8	1.6
BDI negative parent	987	14.0	0.2

Table 3
Mean PSC Score of Child by BDI Positive Parent Among Chronically Ill Children

	N	Mean	Standard Error
BDI positive parent	70	34.3	4.4
BDI negative parent	987	15.3	0.6

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A System of Care for Permanency Planning: Children Affected by HIV/AIDS

Introduction

This study was a critical issues analysis of the permanency and support needs of children at risk of parental loss due to HIV/AIDS. The study was based on the premise that affected children, in contrast to children who are infected with the HIV virus, are not eligible for many services and are, therefore, a largely unknown group to the provider community. Moreover, the infected parent or caregiver frequently does not make plans for the care of these affected children after the parent dies or is unable to care for them. In addition to identifying the needs of these children and their primary caregivers, the analysis provided a number of recommendations for assisting these families, and developed an Action Plan to address those needs.

Method

The target group of the analysis was the primary caregivers who were infected with the HIV/AIDS virus and their minor children, who were affected, not infected, by the disease. The study, which was limited to Hillsborough County, Florida, was an in-depth, qualitative study of 63 families.

The three methodologies used in the study relied mainly on primary sources, as the affected children and their caregivers were viewed as the experts in communicating their needs and concerns. These methods included: 1) Focus groups: two groups of caregivers, one of children/adolescents, and two groups of providers familiar with the issues confronting these families; 2) twenty-five one-on-one semi-structured interviews with caregivers; and 3) twenty surveys of caregivers. Elicited information included: caregivers' experiences with community programs, needed services and barriers to accessing services, informal supports, caregivers disclosure of their HIV condition, and the degree to which caregivers have made permanency plans for their children.

As this study relied primarily on qualitative materials, and used a family-centered approach, data were collected in places convenient to families (primarily in their homes), and an open-ended, semi-structured interview format was selected. The research team then collectively analyzed the taped interview and focus groups, and the surveys, identifying central themes which emerged from the materials. The material was organized around three primary areas of concern, which then formed the basis of the recommended Action Plan:

- Available resources, and participants ratings of the accessibility and responsiveness of the services; the participants use of informal supports.

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- Permanency planning; disclosure of HIV/AIDS status.
- Other issues/ information not directly elicited by initial protocols.

Each category was analyzed quantitatively to determine the most critical issues with respect to service needs and permanency planning. The analysis also included a compilation of demographic information on family member participants, including: age, gender, ethnicity, preferred language, marital status, number and ages of children. Information regarding caregivers' HIV condition included: date of diagnosis, general state of health, and disclosure status.

Results

In regard to the central research questions, the results of the analysis were as follows:

- Generally the caregivers were satisfied with the services they received; however, many did not seek help due to the stigma associated with HIV/AIDS, or because they did not know what was available or how to access services.
- A number of participants noted that some helpful services had been either eliminated or reduced, apparently due to alterations in or loss of agencies' funding; these services primarily included counseling and support groups.
- Counseling (especially for children and teens) and educational programs in the community and in schools, were most frequently identified as needed resources.
- About half of the caregivers interviewed had divulged their illness to their children. Those who had not gave as reasons: the young age of the child(ren), fear of rejection by child or of a negative impact on child's behavior, unwillingness to burden child with this information, or general denial of problem.
- Fewer than half of the caregivers in the analysis had made permanent plans for their affected children; only five, or 20%, of interviewees had made such plans. Fourteen of the 25 interviewees had made informal plans (discussed care of the children with family members or others, but had not made legal arrangements). Reasons for not planning included: Lack of information about the

need for legal planning, lack of information about how to access legal services, superstition regarding planning being a "jinx," or basic denial of the problem.

Implications

The findings of this analysis support the notion that affected children are a "hidden" group who are ineligible for many services (as they are not infected), and that the services available to them are often fragmented and changeable. Moreover, these families frequently do not seek help, from either formal or informal sources, due to the stigma associated with HIV/AIDS, and/or their lack of information about what help is available. Moreover, the infected caregivers rarely make legal permanency plans for their children, although they more frequently are able to divulge their illness to family members.

As a result of the analysis, an Action Plan was developed recommending a system of care to meet the needs of these children and families, organized around four service areas: education, mental health, legal, and social support. Fundamental to the development of such a community system is the formation of a coalition of providers and family members who will undertake the implementation of the action plan. This coalition, which is being organized, is the Hillsborough Community Coalition for Children and Families Affected by HIV/AIDS.

Somatic Symptoms in Children from Three Ethnic Groups

Importance and Purpose of Study

Medically unexplained physical symptoms have long been recognized as common and problematic in pediatric practice, but only since late 1980s have somatic complaints become a topic of research and discussion in the child and adolescent psychiatric literature (Apley & Meadow, 1978). A significant number of studies have been reported in the adult literature, which suggest that the prevalence of somatic symptoms in both clinical and community samples may be associated with belonging to a particular ethnic group (Escobar & Canino, 1989; Canino et al., 1992; Mezzich & Raab, 1980). Epidemiological population studies have shown that Puerto Ricans report higher rates of somatic symptoms as compared to European Americans, and Mexican Americans from Los Angeles, California, even after statistically controlling for socio-demographic factors (Canino et al., 1992; Rubio Stipek et al., 1993). Similar cross-cultural studies of somatic symptoms, have not been reported with pediatric populations. The present study aims to fill this gap in the literature by comparing the rates of somatic symptoms associated with anxiety disorder in three ethnic groups; African American, Hispanic, and European American children.

Method

Probability samples of children were obtained in 1992 in four geographic areas in the United States and Puerto Rico as a part of the Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) study funded by the National Institute of Mental Health (Lahey, et al., 1996). The four sites involved were: 1) Connecticut ($N = 324$), with 78% of the sample from European American heritage, 11% African American heritage, 4% Hispanic heritage, and 7% other heritage; 2) Georgia ($N = 299$), 64% European American, 30% African American, 1% Hispanic, and 5% other; 3) New York ($N = 360$), 63% European American, 18% African American, 10% Hispanic, and 10% other; and; 4) Puerto Rico ($n = 312$), 100% Hispanic. Of a total of 1,523 eligible youths, 1,285 were successfully interviewed for a total response rate of 84% for the four sites. Children ages 9 to 17, as well as their primary caretaker (96% were the mother) were interviewed in their household by two lay interviewers each (blind to the other's findings), using a computer assisted version of the National Institute of Mental Health (NIMH) Interview Schedule for Children (NIMH-DISC 2.3) and the Service Utilization and Risk Factors Interview (SURF: Goodman, et al., 1998). Nineteen somatic symptoms associated with anxiety disorders were ascertained.

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Results

Headaches were the most frequently endorsed somatic symptom, with half of the total sample endorsing this symptom (50.8%), followed by gastrointestinal disturbances (25.87%), palpitations and tachycardia, as well as pain and/or general malaise (22.2%). No differences were found by ethnic group regarding the rank ordering of the symptoms; that is, in all ethnic groups the same types of symptoms were the most frequently endorsed as well as the less frequently endorsed. After controlling for family income, presence of anxiety disorder, age and gender, the total amount of somatic symptoms was found to be significantly less prevalent among Hispanics as compared to the mainland comparison group.

The Hispanic group had a significantly lower prevalence of birth complications/defects, adverse life events and parental psychopathology compared to the European American group. This difference was particularly dramatic in the case of parental psychopathology in which the Hispanic group reported a much lower prevalence in comparison to the mainland group (20.50% vs. 36.25%). In contrast, the Hispanic group reported increased prevalence of teen motherhood and difficulty with friends.

After controlling for the demographic variables and risk factors no statistically significant difference in somatic symptoms was found among ethnic groups. Parental psychopathology, adverse life events, and poor family functioning were significantly associated with higher somatic symptoms. Inclusion of the ethnicity factor didn't change the sign and magnitude of the regression coefficients associated with these risk factors in predicting somatic symptoms.

In fact, when regression analyzes were performed controlling for all known risk factors, the lower prevalence of somatic symptoms in the Hispanic sample disappeared, suggesting that these results were due to the differential prevalence of risk factors and not to unknown factors associated with belonging to the Hispanic culture. Limitations of the study include that somatic symptoms were not ascertained independently of the diagnosis of anxiety disorders.

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Pregnancy in Adolescent Females with Serious Emotional Disturbance: Risk Factors and Outcomes

Introduction

Adolescent pregnancy has been of long standing societal concern. One aspect of concern has been the frequent difficulties experienced by young mothers in providing for and taking care of their children. Another aspect has been the economic cost of aid to teenage parents, which has been estimated at \$25 billion annually (Wilcox, Chase-Lansdale, Scott-Jones, & Osofsky, 1995). For teenage mothers with serious emotional disturbance (SED) these concerns are magnified because of the numerous complications associated with having a psychological disorder. Presumably, parenthood is more problematic for adolescent mothers with SED. On the other hand, these young mothers may experience positive psychological changes in their lives because of motherhood. For example, they may have higher self-esteem after giving birth in comparison with their peers who do not have children, and their self-esteem may increase over time as children mature. To answer questions regarding consequences of early pregnancy and parenting for girls with SED, we examined such outcomes as changes in self-esteem, family cohesion, living arrangements, income, and receiving public assistance. To determine those characteristics that predicted early pregnancy, we examined three groups of risk factors identified with teenage pregnancy. Risk factors that were examined consisted of the following: (a) sociodemographic characteristics (i.e., race/ethnicity, family income, age of the participant's mother when she first gave birth, and school dropout status); (b) psychological characteristics (i.e., self-esteem and family cohesion), and; (c) psychopathology (i.e., DSM-III-R diagnosis of conduct disorder, depressive/anxiety disorder, and alcohol/drug disorder).

Method

Data for this study were part of the National Adolescent and Child Treatment Study (NACTS)—a longitudinal 7-year study of children with SED and their families (Greenbaum et al., 1996). Participants were recruited from residential mental health and community-based special educational programs in six states (i.e., Alabama, Mississippi, Florida, Colorado, New Jersey, and Wisconsin). Among the 202 girls in the NACTS sample, 190 met eligibility criterion (i.e., IQ greater than 55) for the current study. The resulting sample was predominately Caucasian (67%), with the remainder being African American (23%), Hispanic (7%), or other race/ethnicity (3%). Girls ranged in age from 8 to 18 years ($M = 14.19$, $SD = 2.24$).

Data collection procedures included face-to-face interviews with girls and telephone interviews with girls' parents. Instruments administered were the Child Behavior Checklist/4-18 (CBCL/4-18; Achenbach, 1991),

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the Diagnostic Interview Schedule for Children (DISC-C: Costello, Edelbrock, Dulcan, Kalas, & Klaric, 1984), the Family Adaptability and Cohesion Evaluation Scales (FACES III: Olson, Portner, & Lavee, 1985), and the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Risk factors associated with pregnancy were analyzed using survival analysis (i.e., Cox regression), and outcomes were examined using growth curve analysis (i.e., hierarchical linear modeling).

Results

Risk Factors

Among the sample of 190 girls, 41% ($n = 78$) had children during the 7-year study. An additional 7% ($n = 14$) had pregnancies that did not result in live births (i.e., miscarriages or abortions). Age at first pregnancy ranged from 13 to 22 years ($M = 17.48$, $SD = 0.74$). Girls who had pregnancies were compared on all risk factors with those who did not get pregnant. Examination of race/ethnicity indicated that girls of color were more likely to become pregnant earlier than Caucasian girls. Results of survival analysis indicated that girls of color were almost twice as likely to get pregnant as Caucasian girls, $\chi^2(1, N = 182) = 8.66$, $p < .01$, Risk Ratio = 1.91. Additionally, when household income was examined as a risk factor, girls from lower income families were 45% more likely to get pregnant than girls from higher income families, $\chi^2(1, N = 147) = 5.35$, $p < .05$. Early pregnancy also was associated marginally with participants' mothers having been teenagers, themselves, when they first gave birth. Specifically, girls whose mothers were teen moms were 53% more likely to get pregnant than girls whose mothers were not teen moms, $\chi^2(1, N = 144) = 3.41$, $p < .06$, Risk Ratio = 1.53. Another risk factor that was found to be a strong predictor for early pregnancy was school dropout. Girls who dropped out of school were over 3 times more likely to get pregnant after dropping out than girls who did not drop out, $\chi^2(1, N = 125) = 21.83$, $p < .001$, Risk Ratio = 3.61. Neither self-esteem nor family cohesion was associated with early pregnancy, $\chi^2(1, N = 115) = 0.03$, $p > .05$ and $\chi^2(1, N = 175) = 0.33$, $p > .05$, respectively. Among psychopathology risk factors, only conduct disorder was found to be a strong predictor of early pregnancy. Girls with conduct disorder were almost twice as likely to get pregnant early than those without a conduct disorder,

$\chi^2(1, N = 168) = 6.89$, $p < .01$, Risk Ratio = 1.79. A multiple predictor survival analysis that included all of the selected risk factors indicated that only conduct disorder and income were significant unique predictors of early pregnancy, $\chi^2(1, N = 114) = 7.41$, $p < .01$ and $\chi^2(1, N = 114) = 4.53$, $p < .05$, respectively.

Outcomes

Examination of outcome variables indicated that dropping out of school was more frequent for girls who had children. That is, girls who had children were over twice as likely to drop out of school when compared with girls who did not have children, $\chi^2(1, N = 148) = 10.34$, $p < .01$, Risk Ratio = 2.25. Moreover, girls who had children were over three times as likely to be receiving public assistance as girls who did not have children, $\chi^2(1, N = 129) = 16.41$, $p < .001$, Risk Ratio = 3.29. Girls who had children were also more likely to live independently (i.e., by themselves or with a nonfamily partner), $\chi^2(2, N = 128) = 14.48$, $p < .01$, Risk Ratio = 1.74. Although univariate analyses indicated that having a child was significantly associated with increased self-esteem, subsequent multivariate analyses revealed that this relationship was confounded with girls' age (i.e., the effect of having a child on self-esteem could not be separated from the effect of girl's age on self-esteem).

Conclusions and Implications

The results of the survival analyses indicated that the examined sociodemographic characteristics (i.e., race/ethnicity, income, participants' mothers age when they first gave birth, and school dropout status) are significant ($p < .05$) predictors for early pregnancy. The findings also support previous research (e.g., Kovacs, Krol, & Voti, 1994) that found conduct disorder to be a strong predictor for early pregnancy among clinically referred girls. This study indicated that among girls with SED, those with conduct disorder and those who dropped out of school are at greatest risk of becoming pregnant earlier. Results support the need for indicated preventive intervention programs that contain a mental health component for girls with conduct disorder and an educational component for girls who drop out of school. The results did not support the hypothesis of positive psychological change as a consequence of child birth.

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Workplace Trauma Events and Effects in Human Service Workers

Introduction

Child protection professionals are exposed to a variety of workplace events that could overwhelm them. Some of these events stem from proximity to the distressing life circumstances of their clients and others involve verbal abuse, violence and threats of violence directed at workers by clients. This study examined whether these negative workplace events were associated with workplace trauma effects and considered whether job support or job satisfaction moderated any relationship between events and effects. Surveys were completed during the period 1994-1996 by 273 child protection professionals who were participants at training seminars conducted by the investigator.

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Method

This was a pilot study. The survey included 54 items, 31 of which are included in the reported analysis. Respondents self-selected at training sessions offered in workplace and conference settings, predominantly in the Northeast. Surveys were collected between April, 1994, and April, 1996. Most respondents were exposed to a discussion of trauma and resilience theories prior to survey completion.

Trauma

Workplace trauma effects were captured by eight variables surveying the frequency of a respondent's experience of each effect during the three months preceding completion of the survey. These included: having thought about work when not at work; having felt numb and distanced at work; having had distressing thoughts about work when not at work; having had difficulty sleeping because of events at work; having experienced nightmares related to events at work; having had trouble concentrating at work; having experienced difficulty getting a distressing case off one's mind; and having felt jumpy or easily startled.

The respondent's experience of vicarious events was determined by ratings of frequency of work with children in distressing circumstances, being unable to do enough for a specific client, or being unable to do enough for clients generally.

Results and Discussion

Hypothesis #1

Hypothesis #1 stated that the occurrence of negative workplace events would be positively associated with the presence of workplace trauma effects. Neither property damage by a client nor physical assault by a client were associated with negative effects. Both composite events

variables (verbal abuse/safety threatened by a client and vicarious trauma events items) were positively associated with negative effects. Vicarious events were associated with effects at a higher rate ($r = .54$, $p < .001$) than was the verbal abuse and safety threatened by client variable ($r = .28$, $p < .001$) at a significance level of $t = 6.891$, $p < .001$.

Hypotheses #2 and #3

These hypotheses posited that job support (#2) and job satisfaction (#3) would influence the association between negative workplace events and workplace trauma effects. Use of partial correlation analysis and multiple regression analysis resulted in the rejection of each. Do support and satisfaction not matter in how we manage negative workplace experiences? A more compelling model might predict that the impact of job support, job satisfaction and other variables would be found not between the occurrence of the event and the development of effects, but after workplace trauma effects have developed. These variables may well impact the frequency, severity and duration of the effects, and also the subjective meaning and attributions that workers attach to both the events and the effects. These questions of frequency, severity, duration and meaning of effects are essential to understanding worker experiences and to supporting workers.

Gender

The vicarious events composite variable was associated with effects at a greater rate for women ($r = .58$, $p < .000$) than for men ($r = .34$, $p < .010$) at a level that approaches significance ($z = 1.95$). The data suggest that women exposed to clients whose life circumstances are distressing or whose prospects seem hopeless were at a greater risk of developing, or at least of reporting, negative effects than were men with a similar level of exposure. Women also reported more effects independent of the occurrence of negative workplace events.

Caseworkers vs. Supervisors

Caseworkers more often than supervisors were put in fear for their safety by clients and verbally abused by clients. But there were no group differences in the frequency of exposure to assaults, property damage or vicarious events. Caseworkers ($r = .57$, $p < .000$) and supervisors ($r = .59$, $p < .000$)

also reported equivalent rates of association between vicarious events and effects.

Vicarious events impacted caseworkers and supervisors equally despite the fact that caseworkers are more likely to have direct contact with clients. This finding suggests that proximity does not stem only from direct contact with clients but also from knowledge of or perceived responsibility for a client's circumstances, thus giving supervisors and caseworkers equivalent exposure to these events and leaving them with similar levels of resultant workplace trauma effects. It also may be inaccurate to assume that proximity is primarily related to degree of direct involvement with a client. Rather, proximity may be a more complex variable having to do with one's level of exposure to the details of a client's circumstances. Perhaps the number of clients one learns about or the degree of responsibility one feels for altering clients' circumstances, each of which would be greater for supervisors than for caseworkers, indicate level of proximity to clients' dilemmas more accurately than if proximity is understood as direct involvement with clients.