

Mental Health Services Utilized by the Children of Depressed Mothers

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Introduction

Background

Previous research has demonstrated that the children of depressed women are at increased risk for both affective and nonaffective disorders (Gelfand & Teti, 1990; Hammen, Burge, Burney, & Adrian, 1990; Lee & Gotlib, 1989; Weissman, Prusoff, Gammon, Merikangas, Leckman, & Kidd, 1984; Weissman, Gammon, Merikangas, Warner, Prusoff, & Sholomskas, 1987). Given the prevalence of Major Depression in women of child-bearing age and the high rate of recurrence this is clearly an important factor in child psychopathology. One factor that may contribute to the high rates of behavior problems in the children of depressed mothers is the parenting difficulties found among depressed mothers. Depressed women tend to be less responsive to their children and more rejecting of their children (Gelfand & Teti, 1990).

Although it is clear that maternal depression increases the risk of parenting difficulties and child psychopathology, little information is available regarding mental health services for depressed mothers and their children. The purpose of the current study was to examine mental health utilization by depressed mothers and their children and community interventions currently available to address psychopathology in this population.

Project goals

Several research questions were examined in this study:

- What types of mental health interventions are depressed mothers receiving?
- Do the mental health services received by depressed, low-income women with children (aged 18 and younger) address parenting issues or child psychopathology?
- What is the rate of behavior problems among children of depressed, low-income mothers in Iowa and is it comparable to previous studies of depressed mothers?
- What is the rate of mental health services to the children of depressed, low-income mothers in Iowa?
- What types of problems are the children of depressed mothers receiving mental health services for?
- What proportion of the children with behavior problems are receiving mental health services?
- Are the children of depressed, low-income mothers less likely to utilize mental health services if their mothers' mental health services address parenting issues or child problems?
- Are current levels of maternal depressive symptoms, recent maternal treatment for depression, or recent maternal hospitalizations for depression associated with increased utilization of mental health services by their children?

Methods

Subject Recruitment

During the first phase of subject recruitment, information from the Iowa Consortium for Mental Health Medicaid Project was used to identify a sample of 201 adult women (aged 18 or older) who lived in eastern or central Iowa and received Medicaid funded mental health services during FY 1993 for a diagnosis of Major Depressive Disorder. Letters were sent to these women to identify a subsample of depressed women who had children 18 or younger living at home and were willing to participate in the study. These recruitment letters included forms which subjects could use to indicate whether they were interested in participating. Women could return the form indicating they were interested or indicating they did not wish to participate. Women who did not return the form were contacted by telephone to determine if they had children aged 18 or younger and were interested in participating in the study. During the initial subject recruitment period, it became clear that following up potential participants by telephone was ineffective as the majority of the women in the sample lacked either telephones or listed telephone numbers. Therefore, procedures were altered early in the recruitment process by having a research assistant go to the women's home to contact them approximately one week after an initial recruiting letter was sent. If no one was at home during this first visit, additional visits were made.

Another barrier to subject recruitment was that this population proved to be fairly transient. Of the 201 women who were sent initial letters, 95 (47%) had moved to an unknown address. This was evident from recruitment letters that were returned with no forwarding address or information indirectly obtained when the research assistant arrived to contact the woman (e.g. responses of neighbors or

current residents, evidence that the home had clearly been abandoned). Of the remaining pool of participants, 54 women (27%) were not at home during numerous attempts to contact them such that it was not clear whether they still lived at the address (or whether there was a current resident.) Letters were also sent to a small number of women (10, 5%) who had post office boxes as addresses. None of these women returned their recruitment letters, and because their home addresses were unknown, none of them could be contacted further. Contact from a relative indicated that one woman who was sent a recruitment letter had died. In summary, contact beyond the first recruitment letter was made with 42 women (21% of the sample of eastern and central Iowa women identified as receiving Medicaid funded services for Major Depressive Disorder in FY 1993).

The sample population was further narrowed down at this point due to 13 women refusing to participate (6% of initial pool; 31% of women contacted). In addition, 10 women did not meet the criteria of having children aged 18 or younger who had lived with them during the past month (5% of initial pool; 24% of women contacted). In some cases, the women were childless or had children older than 18. In other cases, however, women indicated they had children 18 or younger but these children had been out of the home for more than a month prior to our contact with them. Reasons for children not living at home included being removed by the Department of Human Services or living with their father following a divorce. In 5 cases (2% of initial pool; 12% of women contacted), women initially agreed to participate but were not available at the time of their appointment and subsequent attempts to contact them were unsuccessful. Overall, 14 women (7% of initial pool; 33% of women contacted) participated in the study. Informed consent was obtained from each participant prior to the interview.

It is important to note that despite the enormous difficulties involved in finding and contacting women for this study, the refusal rate among women who were contacted was not inordinately high. Furthermore, most of the women who participated seemed to find their participation enjoyable and worthwhile. A few subjects indicated that it helped to be able to describe some of the difficulties they were having or had experienced in the past. A number of subjects indicated their willingness to participate in future research projects, and of those women ineligible due to lack of children at home, several stated that they would have participated. Thus, the sample of low-income depressed women that was obtained appeared motivated to provide accurate information regarding the symptoms and treatment they and their children had received. However, given the recruitment difficulties with this sample, it may not accurately reflect the general population of depressed women with children at home who have received Medicaid funding for mental health services. Specifically, the sample obtained may be somewhat higher functioning than the population being sampled since the women who were able to be contacted were more likely to have telephones, not have moved in the last 3 years, and initiate contact with the investigators by returning the form indicating interest in the study.

Measures

Demographic information was obtained by a subject interview. Maternal and child psychiatric treatment histories were obtained by subject interviews developed for this study. Mothers were also asked to rate the effectiveness of treatments and satisfaction with treatments using two 5 point Likert scales. Women were interviewed regarding their history of depressive episodes, treatment for depression, and current symptoms of depression using selected portions of the Structured Clinical Interview for DSM-III-R/DSM-IV (SCID) (Spitzer, Williams, Gibbon, & First, 1992). Women also

completed the Beck Depression Inventory (BDI) (Beck & Steer, 1993), a self-report questionnaire that assesses depressed mood, to obtain a current measure of depressive symptomatology.

Information about child psychopathology was obtained by having women complete the Child Behavior Checklist for ages 2-3 or the Child Behavior Checklist for ages 4-18 (CBC 2-3 and CBCL 4-18)(Achenbach, 1991; Achenbach, 1992). This is a widely used questionnaire that assesses emotional and behavioral problems in children and adolescents and has been used in previous studies of children of mothers diagnosed with Major Depressive Disorder (Anderson & Hammen, 1993; Lee & Gotlib, 1989).

Results

Mothers

Confirmation of previous major depressive episode:

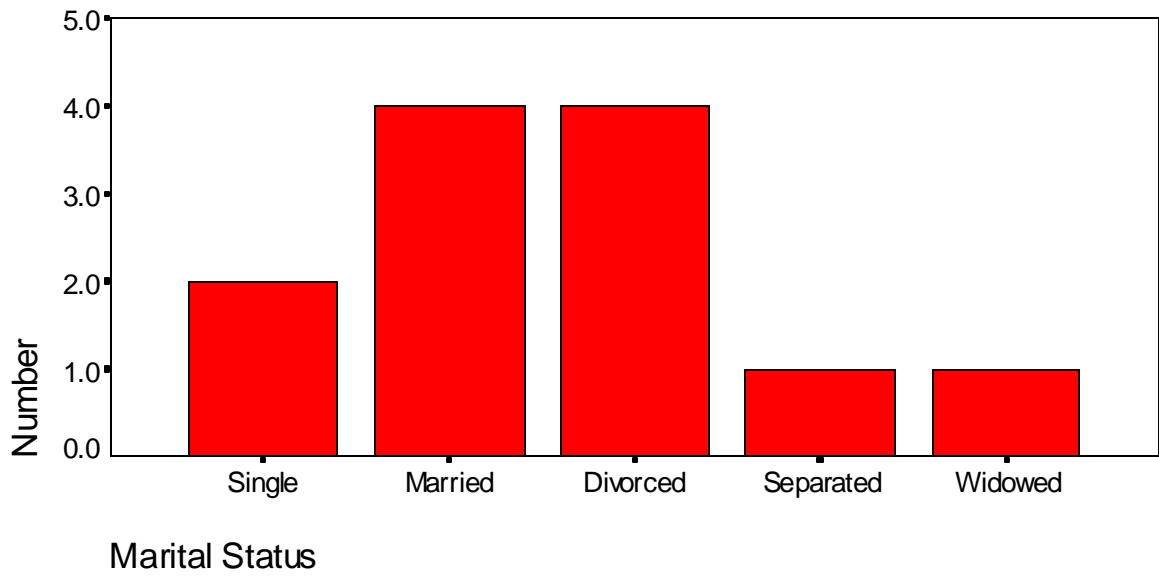
Diagnoses based on the Structured Clinical Interview for DSM-III-R/DSM-IV (SCID) were analyzed in order to confirm the clinical diagnoses of Major Depressive Disorder used to identify the current sample. Based on the SCID interview, 12 women met criteria for a previous Major Depressive episode. The 2 women (14%) who did not meet criteria for a previous Major Depressive episode also denied previous treatment for depression or other emotional problems during the treatment interview. Therefore, these women were excluded from subsequent analyses.

Demographic characteristics

The ethnic background of the 12 mothers in the study was Caucasian (83%) and African American (17%). Monthly income ranged from \$453 to \$2875 (median monthly income = \$688). The majority of women in the sample (75 %) continued to be covered by Medicaid. A number of women also received other forms of government assistance (e.g. 58% received SSI, 25% received FIP, and 25% received food stamps). The majority of the mothers (67 %) did not work outside the home (they typically described themselves as homemakers or disabled rather than unemployed).

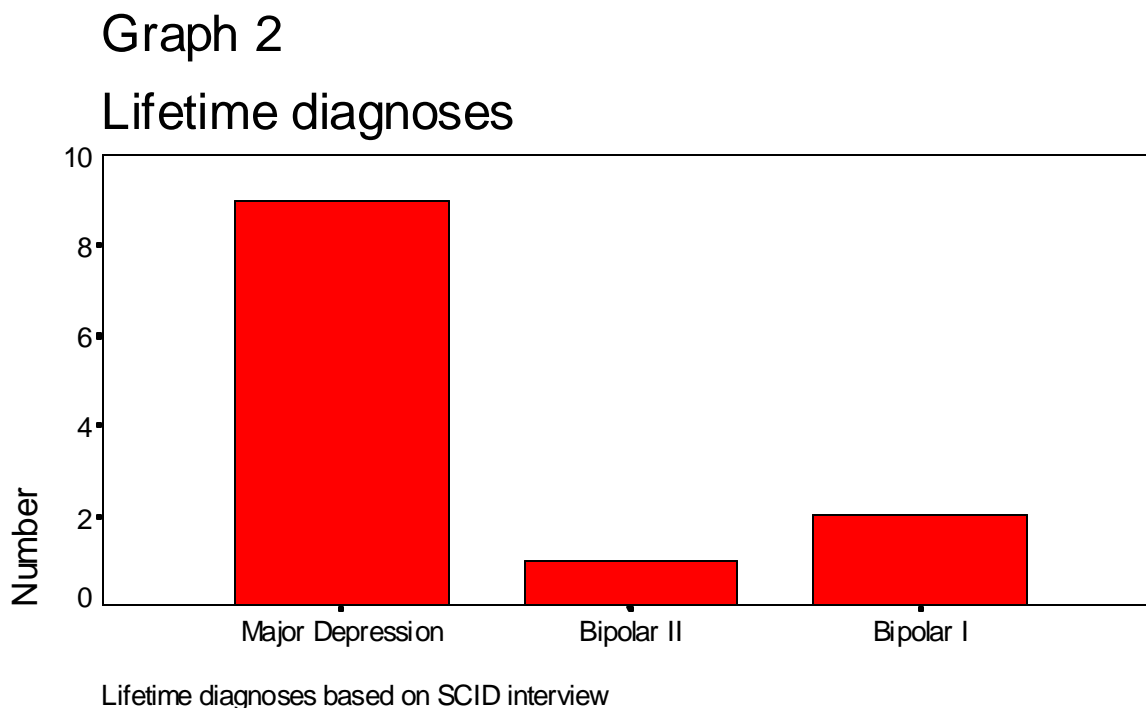
The women in this sample had 1 to 4 children (median = 2). The number of children living in the home within the past month ranged from 1 to 3 (median = 1). The age at which women in this sample had their first child ranged from 16 to 33 (median = 20). One-third of the women had their first child when they were adolescents (younger than 18). As seen in graph 1, the majority of women in this sample were not currently married.

Graph 1
Marital status



Lifetime diagnoses

Lifetime prevalence of depressive disorders based on SCID diagnoses is presented in graph 2.



For the majority of subjects the lifetime diagnosis of Major Depressive Disorder was appropriate. However, 3 of the women met criteria for Bipolar Disorder due to reports of previous Manic or Hypomanic episodes.

Psychiatric history

Age of onset of first depressive episode ranged from age 8 to 24 (mean = 14.8, SD = 5.3). Since the age of onset is quite young, it is not surprising that the majority of the women (83%) had experienced at least one Major Depressive episode before the birth of their first child. Two-thirds of the women reported the number of depressive episodes they had experienced was too numerous to

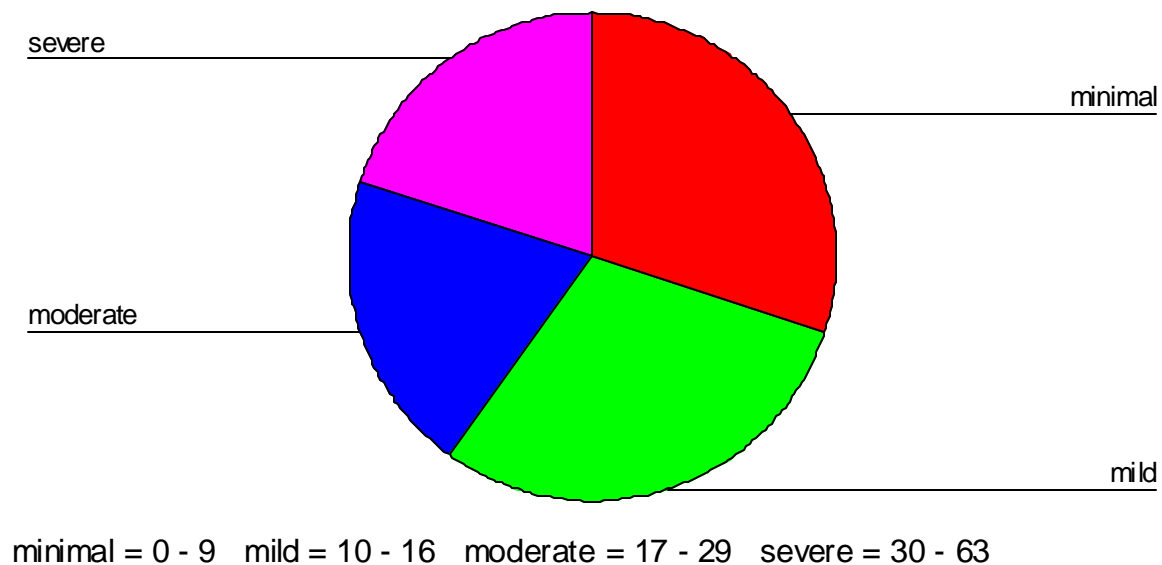
count. The remaining one-third reported 3 to 5 episodes of depression. Four of the women (33%) had experienced psychotic symptoms (delusions or hallucinations) in the past.

Current diagnoses and depressive symptoms

Two of the women (17%) met criteria for a current Major Depressive episode. Although only 2 subjects met criteria for a current Major Depressive episode, many of the subjects continued to be symptomatic. The Beck Depression Inventory (BDI) was obtained from 10 subjects as a measure of severity of current depression. Scores on the BDI ranged from 7 to 38 (mean = 17.6, SD = 11.0). As seen in graph 3, seventy percent of the women completing the BDI obtained scores in the mild, moderate, or severe range according to standard BDI cutoffs (Beck & Steer, 1993).

Graph 3

Scores on BDI

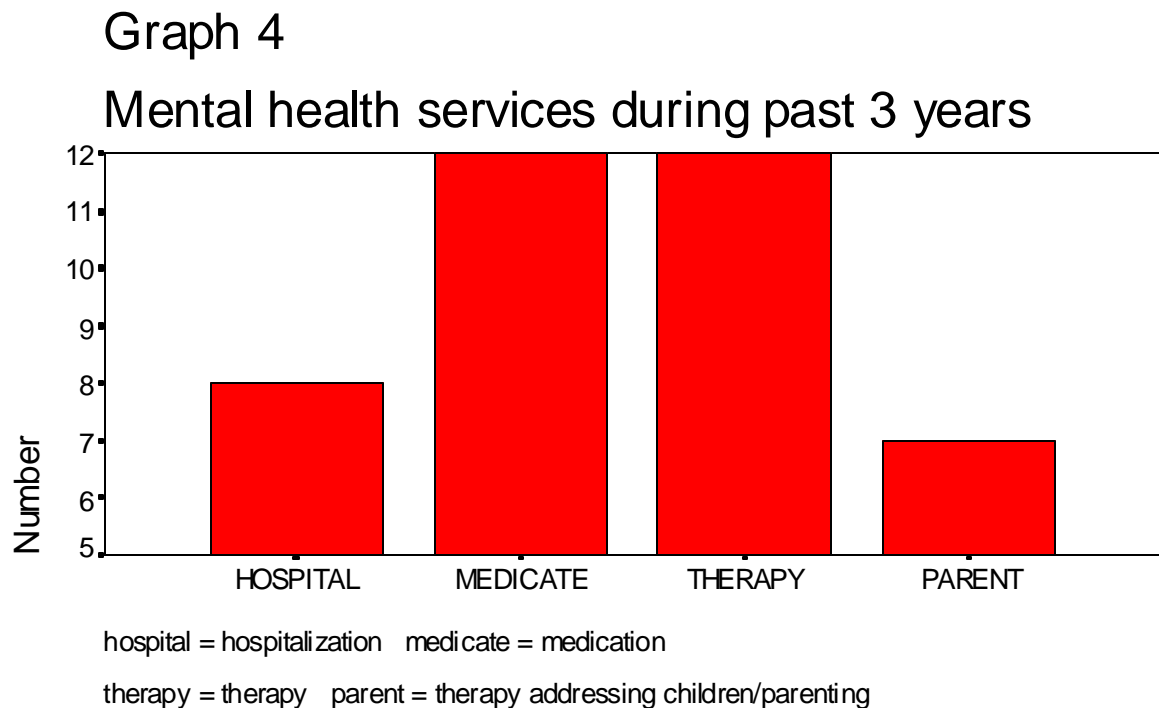


History of mental health services

Most of the women in the sample (83%) had been psychiatrically hospitalized. The number of hospitalizations during their lifetime ranged from 1 to 20 (mean = 5.4, SD = 6.6, median = 2.5). All of the women in the sample had received therapy and medication to treat their depression.

Recent mental health services

Mental health services received during the past 3 years in illustrated in graph 4. Types of interventions included are hospitalization, medication, and psychotherapy. In addition, we specifically asked whether they had received psychotherapy that addressed child or parenting issues.



Two-thirds of the women had been hospitalized at least once within the past 3 years. The women who had been psychiatrically hospitalized during the last 3 years were hospitalized for a total of 3 to 21 days (median = 14). Effectiveness of treatment and satisfaction with treatment were rated on 5

point Likert scales (*effectiveness rating*: 1 = made problem much worse, 2 = made problem somewhat worse, 3 = no change, 4 = made problem somewhat better, 5 = made problem much better; *satisfaction rating*: 1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = somewhat satisfied, 5 = very satisfied). In general, ratings of effectiveness and satisfaction with hospitalizations were positive (mean effectiveness rating = 4.2, SD = 0.5; mean satisfaction rating = 4.4, SD = 0.5).

All of the women had received medication to treat their depression during the past 3 years and the majority were currently taking psychiatric medication (83%). Two-thirds of the women had taken medication for depression continuously for the past 3 years. Ratings of effectiveness of medication and satisfaction with medication were generally positive but showed slightly more variability than ratings of hospitalization (mean effectiveness rating = 4.2, SD = 0.7; mean satisfaction rating = 4.2, SD = 1.1).

All of the women had attended therapy during the past 3 years and the majority (92%) were currently involved in therapy. Ratings of effectiveness of therapy and satisfaction with therapy were generally positive (mean effectiveness rating = 4.4, SD = 0.6; mean satisfaction rating = 4.4, SD = 0.9).

Therapy addressing child/parenting problems:

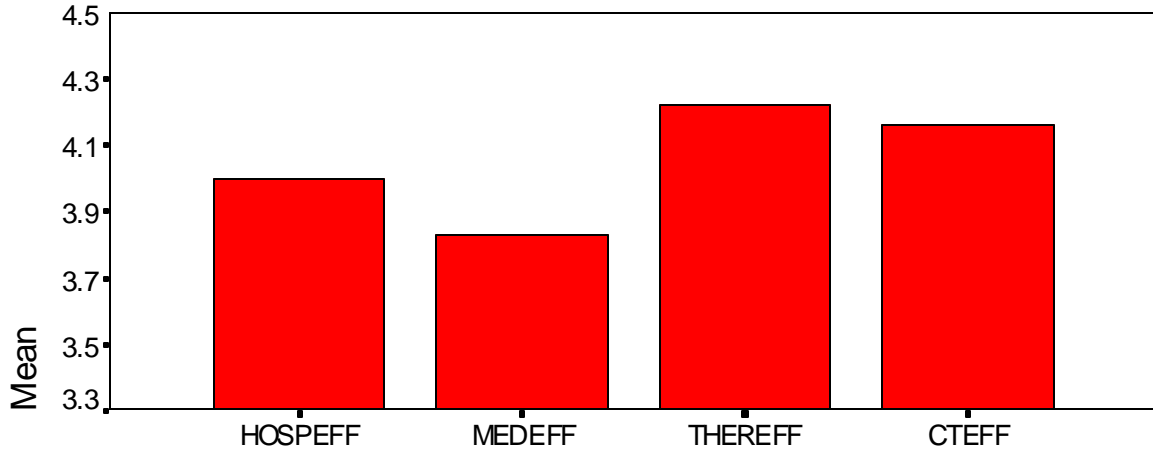
Seven women (58%) had addressed parenting and child behavior problems in therapy during the past 3 years. Ratings of effectiveness and satisfaction with therapy that addressed child/parenting issues were similar to overall ratings of therapy effectiveness and satisfaction (mean effectiveness rating = 4.2, SD = 0.8; mean satisfaction rating = 4.1, SD = 1.0).

Ratings of effectiveness and satisfaction with mental health treatments received during the past 3

years are summarized in graphs 5 and 6.

Graph 5

Ratings of treatment effectiveness

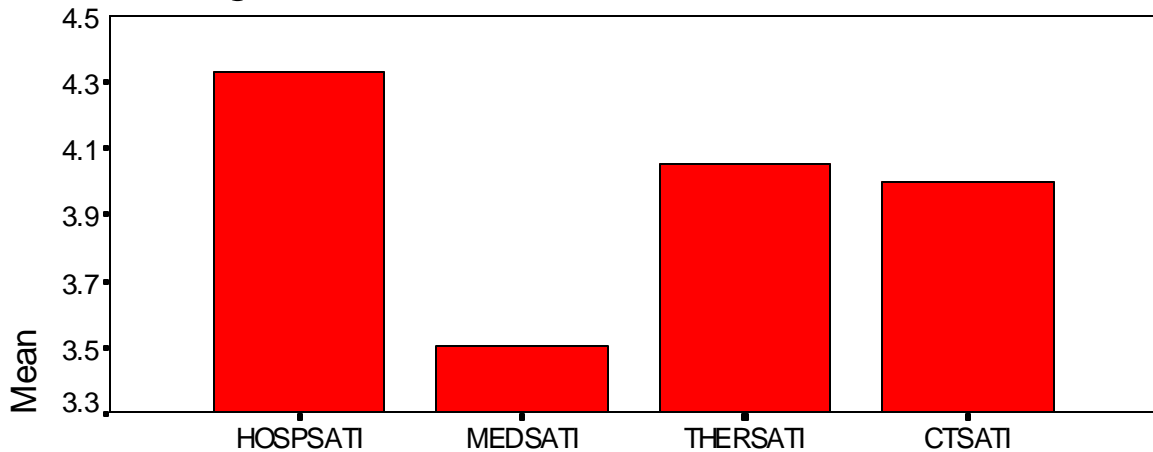


hospeff = hospitalization medeff = medication

thereff = therapy cteff = therapy addressing children/parenting issues

Graph 6

Ratings of treatment satisfaction



hospsati = hospitalization medsati = medication

thersa = therapy ctsat = therapy addressing children/ parenting issues

Children

Demographic characteristics

The children in this sample ranged from 1 to 18 years of age (mean = 9.5, SD = 5). For some subsequent analyses, children were divided into three age groups: young children (less than 6), middle school age (7 to 12), and adolescent (13 to 18). Children were about equally divided between these three age groups (5 young children, 7 middle school aged children, and 6 adolescents).

The majority of the children (72%) were the result of an unplanned pregnancy. Four of the children in this sample (22%) had been removed from their home by DHS. These children came from three different families. Thus, 25% of the women in this sample had experienced having their children removed by DHS.

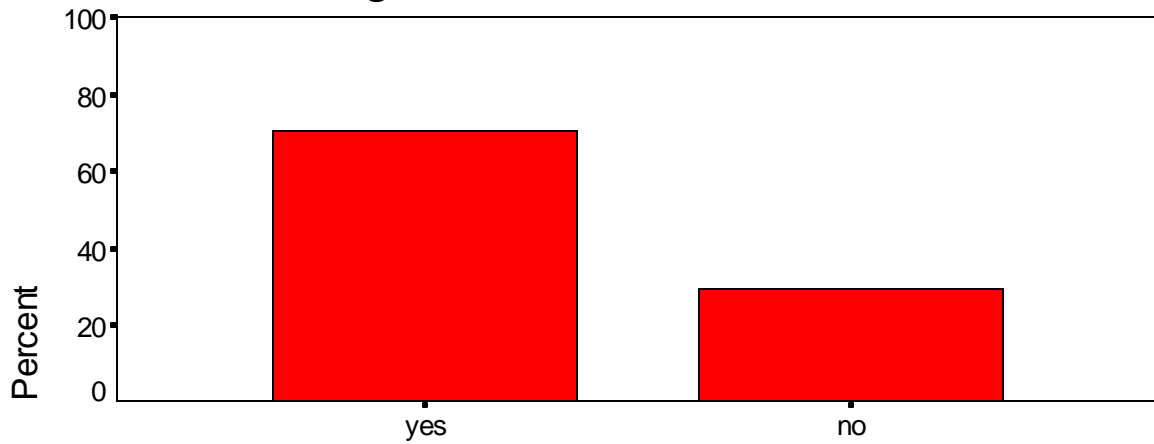
Rate of child behavior problems

The Child Behavior Checklist for 2 to 3 year olds or Child Behavior Checklist for 4 to 18 year olds (CBC)(Achenbach, 1991; Achenbach, 1992) was completed to assess current level of behavior problems for children aged 2 or older (n=17). Scores on the total problem scale, internalizing scale, and externalizing scale were evaluated. T-scores (adjusted for age and gender) on the CBC total problem scale ranged from 50 to 70 (mean = 61, SD = 5).

As seen in graph 7, 71% of the children scored in the clinical range on the total score according to standard CBC criteria (T-score ≥ 60). Thus, compared to the CBC normative sample, significantly more of the children in this sample were experiencing serious behavior problems than would be expected (chi-square = 31.8, $p < .01$).

Graph 7

Clinical range on CBC total score



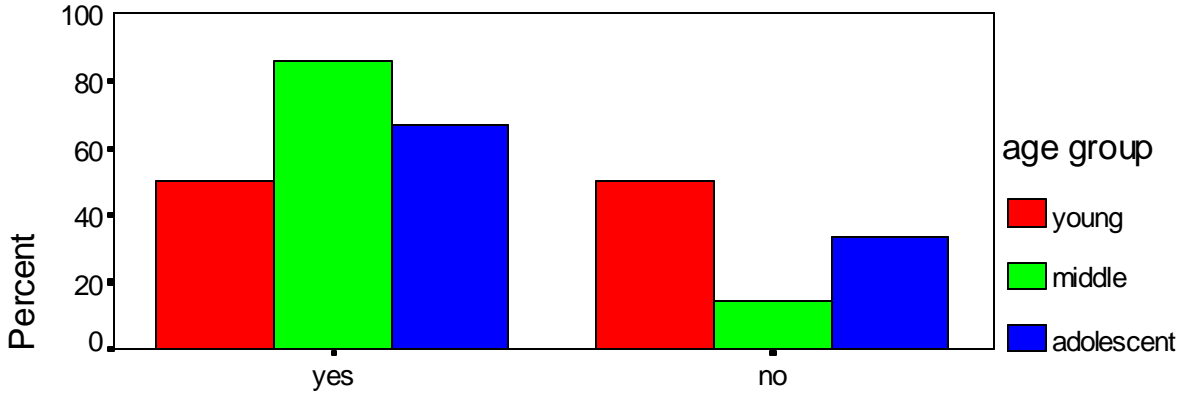
clinical range - cbc total

CBC = Child Behavior Checklists for Ages 2-3 and Ages 4-18

As seen in graph 8, a significant proportion of children in each age group scored in the clinical range on the CBC total score.

Graph 8

Clinical range on CBC total score



clinical range - cbc total

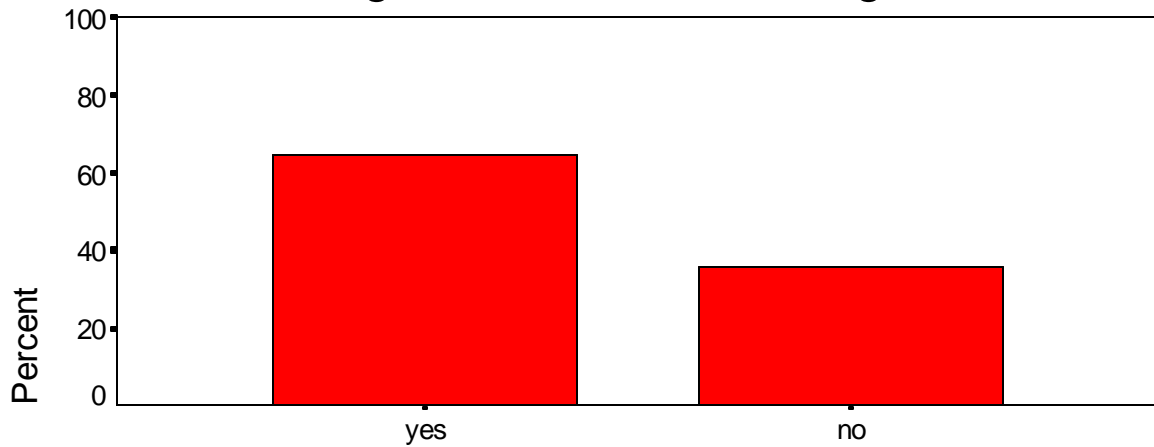
CBC = child behavior checklist for ages 2-3 and ages 4-18

young = 2 to 6 years middle = 7 to 12 years adolescent = 13 to 18 years

T-scores on the internalizing scale of the CBC, a measure of anxiety and affective symptoms, ranged from 45 to 74 (mean = 60.4, SD = 8). As seen in graph 9, 65% scored in the clinical range (T-score ≥ 60). This is significantly more than would be expected based on CBC normative data (chi-square = 25.1, $p < .01$).

Graph 9

Clinical range on CBC internalizing scale

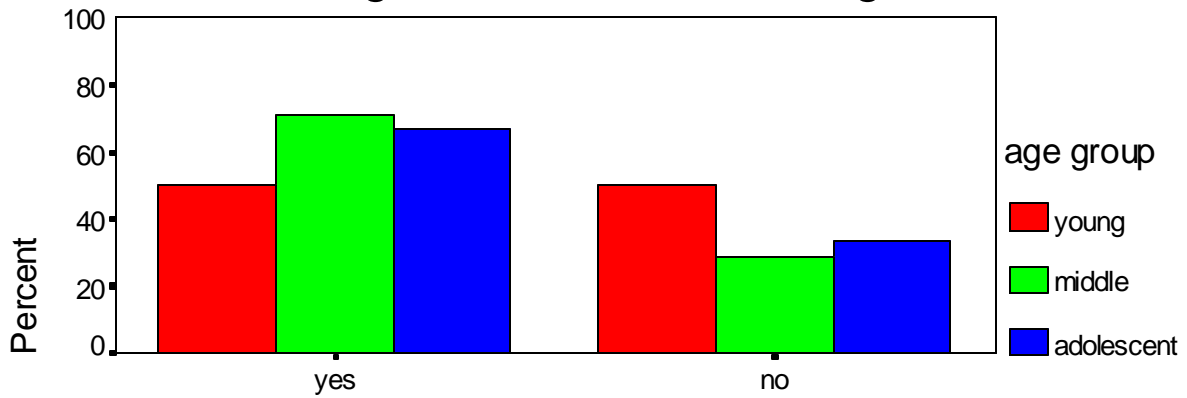


clinical range - internalizing

CBC = Child Behavior Checklist for ages 2-3 and ages 4-18

As illustrated in graph 10, at least half of the children in each age group scored in the clinical range on the CBC internalizing scale.

Graph 10
Clinical range on CBC internalizing scale



clinical range - internalizing

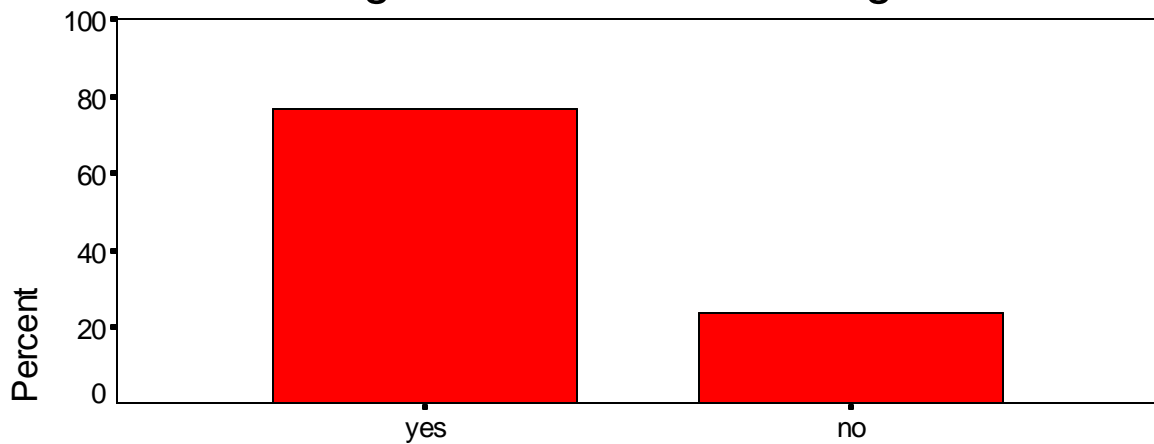
CBC = child behavior checklist for ages 2-3 and ages 4-18

young = 2 - 6 years middle = 7 - 12 years adolescent = 13 - 18 years

T-scores on the CBC externalizing scale, a measure of disruptive and conduct symptoms, ranged from 41 to 75 (mean = 61.7, SD = 10). As seen in graph 11, seventy-six percent score in the clinical range (T-score ≥ 60), significantly more than would be expected based on CBC normative data (chi-square = 39.4, $p < .01$).

Graph 11

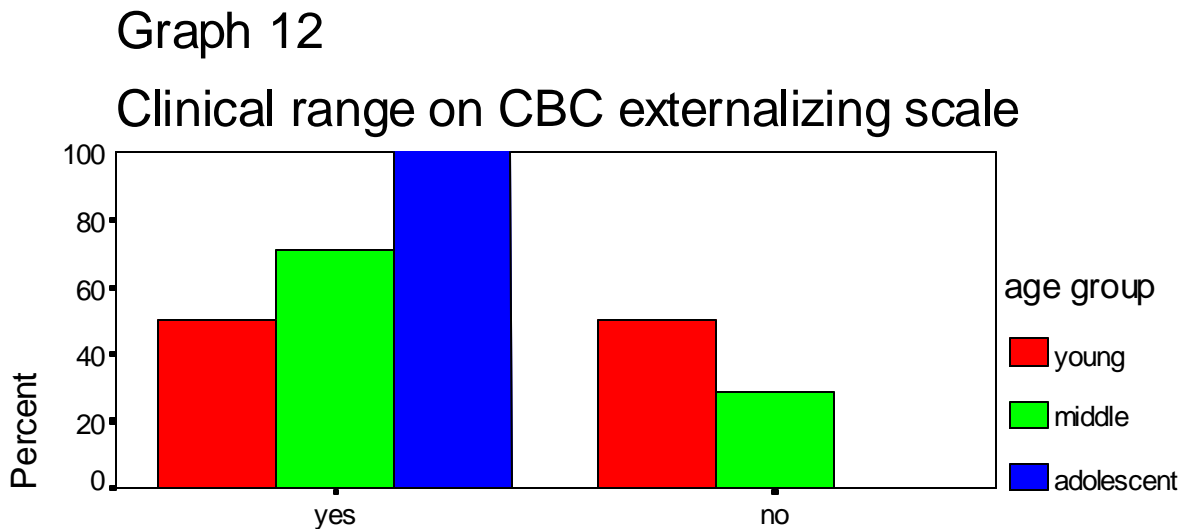
Clinical range on CBC externalizing scale



clinical range - externalizing

CBC = Child Behavior Checklist for ages 2-3 and ages 4-18

As seen in graph 12, the rate of children scoring in the clinical range on the CBC externalizing scale steadily increases by age group, with all of the adolescents in the sample scoring in the clinical range.



clinical range - externalizing

CBC = child behavior checklist for 2-3 and 4-18

young = 2 - 6 years middle = 7 - 12 years adolescent = 13 - 18 years

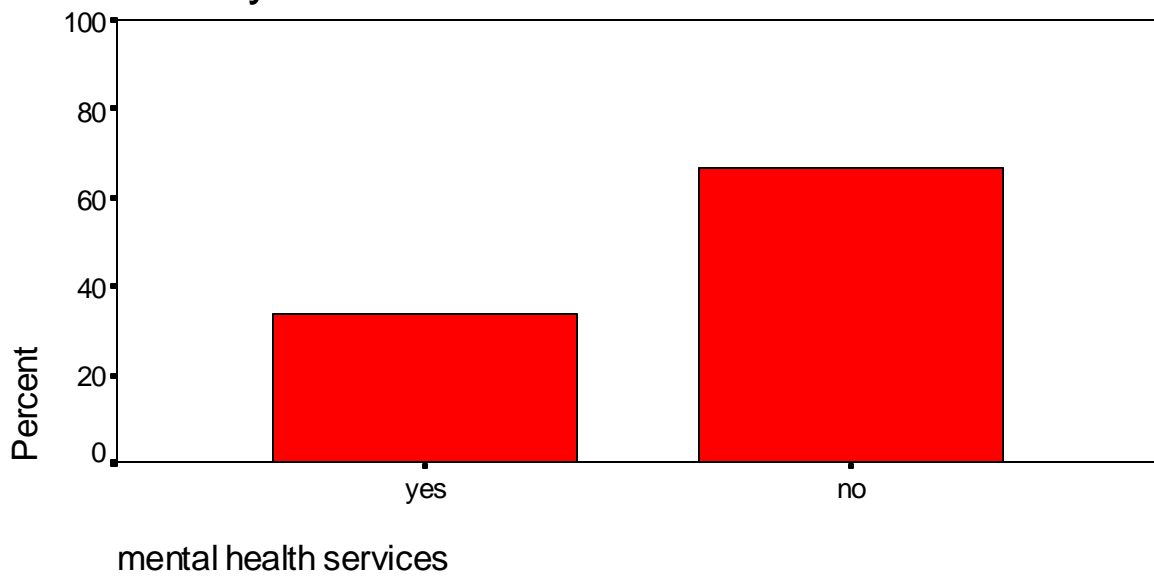
Rate of mental health utilization

The number of children who have a history of mental health services is shown in graph 13. Six of the children (33%) had a history of receiving mental health services. Three of the children (17%) had been hospitalized for psychiatric problems. Thus, half of the children who had received mental health services had been hospitalized. Two of the children (11%) had taken psychiatric medication and three (17%) had received psychotherapy. The problems treated included depression, mood swings,

irritability/anger, oppositional/conduct problems, Attention Deficit Hyperactivity Disorder, and emotional consequences of physical or sexual abuse.

Graph 13

History of mental health services



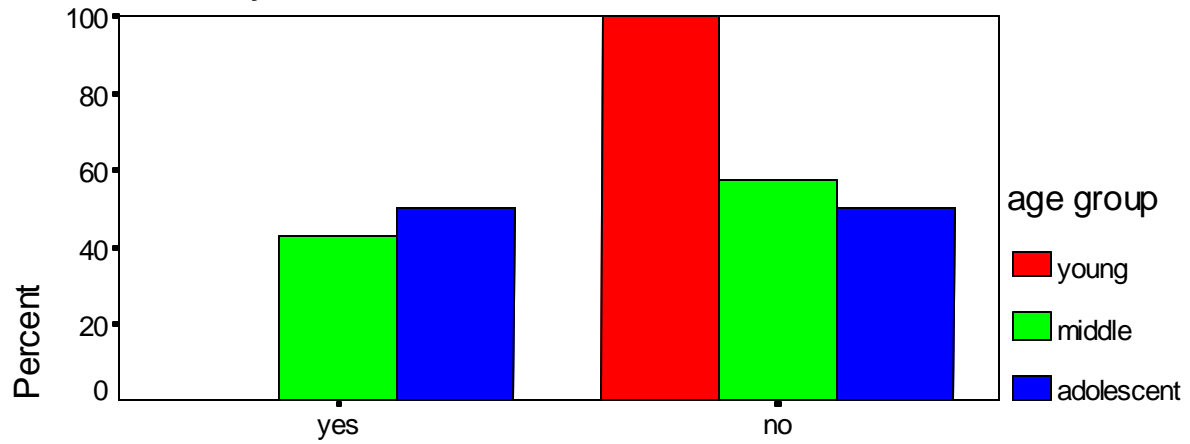
Satisfaction with mental health services

Effectiveness of treatment and satisfaction with treatment were rated on 5 point Likert scales (*effectiveness rating: 1 = made problem much worse, 2 = made problem somewhat worse, 3 = no change, 4 = made problem somewhat better, 5 = made problem much better; satisfaction rating: 1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = somewhat satisfied, 5 = very satisfied*). Maternal ratings of three types of child mental health services were obtained (medication, therapy, psychiatric hospitalization). Due to the small number of children receiving each type of intervention, ratings for the different interventions were averaged to obtain a mean rating of effectiveness and satisfaction for each child who had received mental health services. In general, mothers tended to rate the mental health services their children had received as ineffective (mean effectiveness rating = 2.8, SD = 0.9), with only one mother rating her child's problem as somewhat better as the result of mental health services. Mothers were typically dissatisfied or only slightly satisfied with the mental health services their children had received (mean satisfaction rating = 3.0, SD = 1.3).

As seen in graph 14, the children who had received mental health services came from the 2 older groups. None of the children aged 6 or younger had received mental health services. However, as noted earlier, a significant number of the children in this age group were described by their mothers as exhibiting significant emotional or behavioral problems.

Graph 14

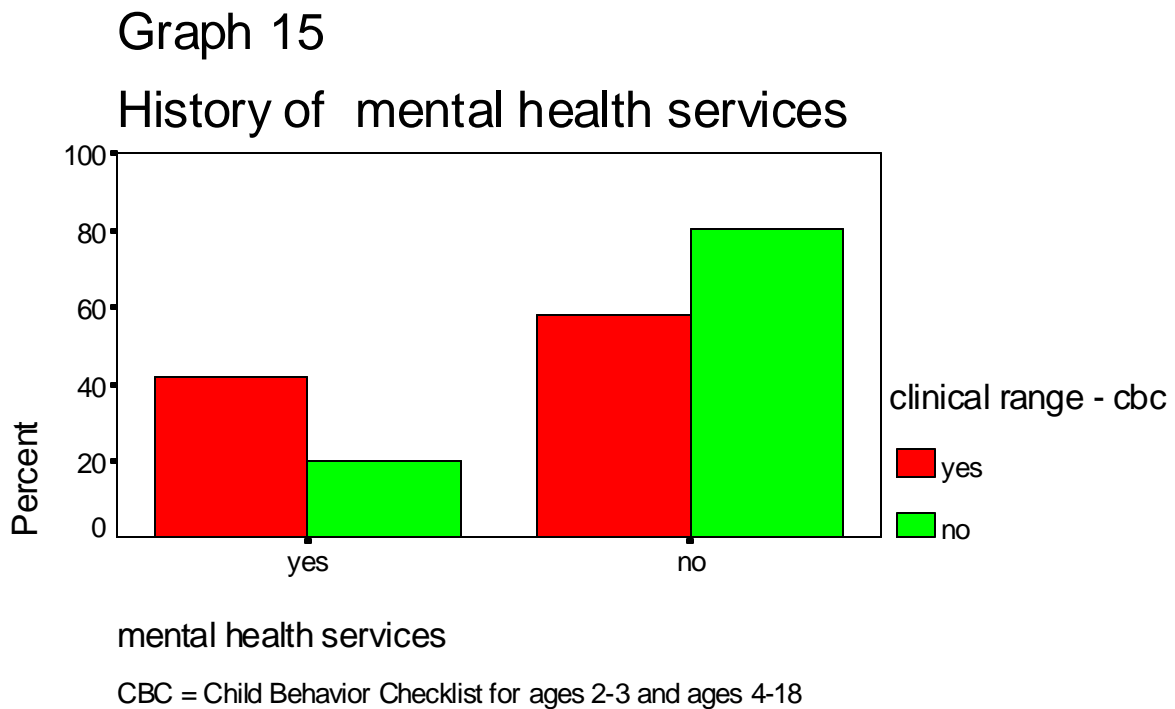
History of mental health services



mental health services

young = 1 - 6 years middle = 7 - 12 years adolescent = 13 - 18 years

As seen in graph 15, the majority of children rated as currently having significant behavior problems by their mothers have never received mental health services.



Recent and current mental health services

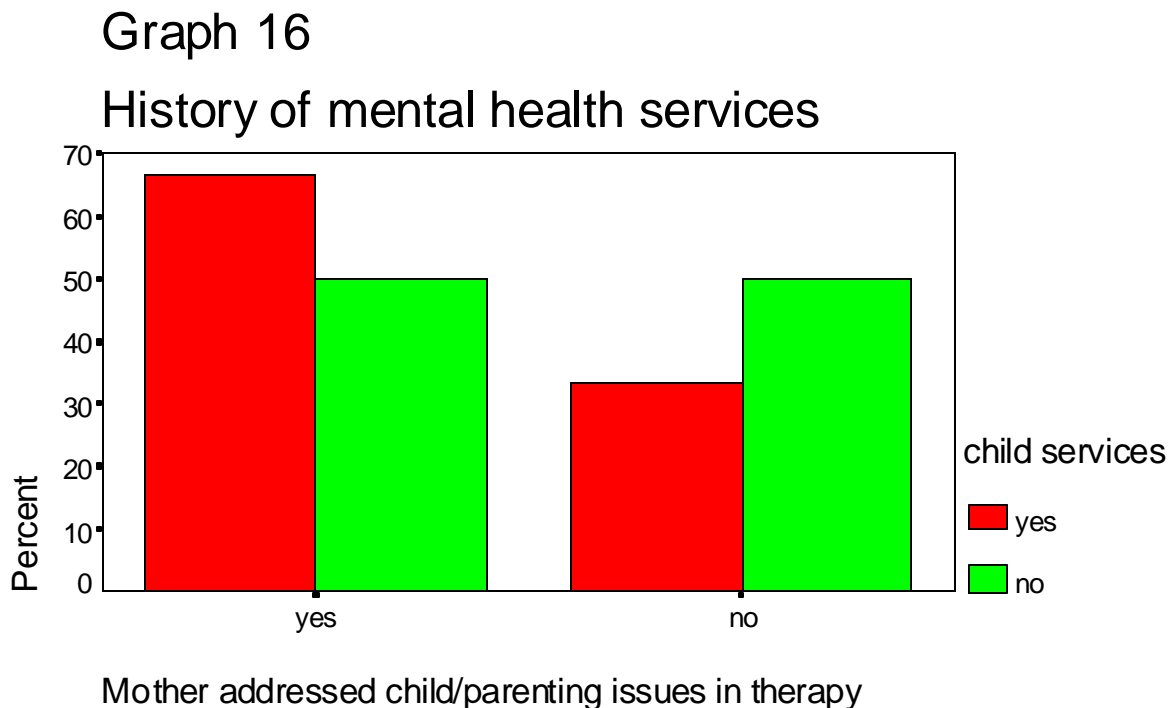
Three children had been hospitalized during the past 3 years (one was hospitalized twice). Two had taken medication for a psychiatric disorder and 3 had received psychotherapy (individual, family, and/or group) during the past 3 years. These children all scored in the clinical range on the CBCL externalizing scale and four scored in the clinical range on the internalizing scale. The children who had received mental health services exhibited more externalizing

problems ($M = 69.2$, $SD = 4.8$) than the children who had not received mental health services ($M = 57.6$, $SD = 9.0$, $t = 2.89$, $p < .05$). However, the degree of internalizing problems ($M = 60.5$, $SD = 5.4$) did not differ significantly from those with no treatment history ($M = 60.4$, $SD = 10.0$, $t = .03$, n.s.).

One child was currently receiving medication and psychotherapy and one was currently receiving psychotherapy. Both of these children were in the same family. Thus, factors associated with current utilization of child mental health services could not be examined.

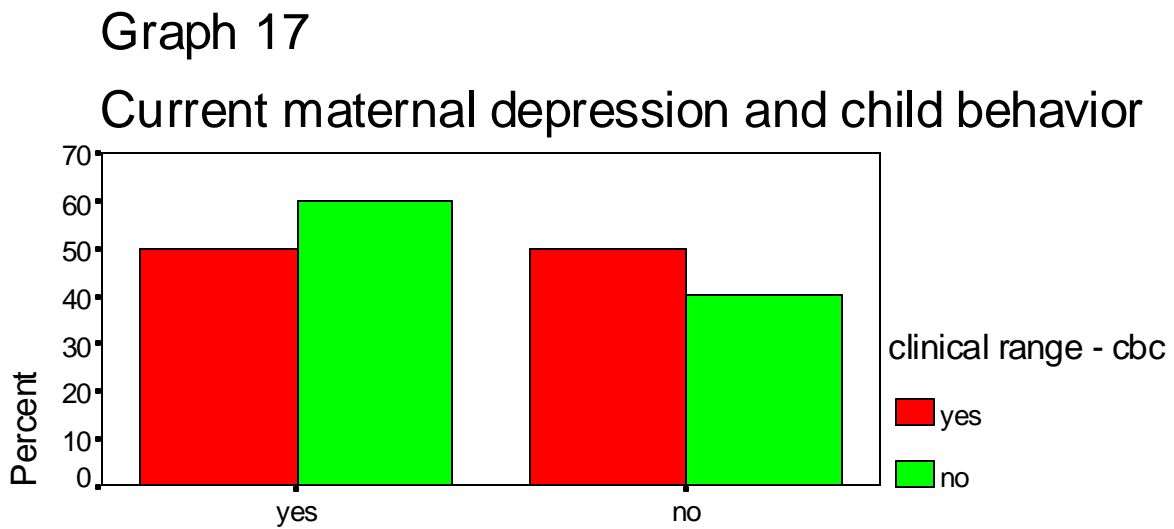
Maternal mental health services and child mental health services

As indicated in graph 16, the majority of children whose mothers had addressed child/parenting issues in therapy had a history of mental health services. Mothers seemed to typically address child/parenting issues in therapy concurrent with their children receiving mental health services. Thus, it was not possible to determine whether addressing child/parenting issues in therapy prevented the development of child behavior problems or subsequent referral for services. The number of mothers who were currently depressed and the number of children currently receiving mental health services was too few to examine the relationship between current maternal depression and utilization of child mental health services.



Current maternal depression and child behavior

The relationship between current depression and rate of child behavior problems is illustrated in graph 17. Current maternal depression was defined as currently meeting DSM-IV criteria for a Major Depressive episode based on the SCID interview or reporting a moderate or severe level of depressive symptoms on the BDI. Five women (42%) were currently depressed according to this definition. Rate of child behavior problems was based on the CBC total score. As seen in graph 17, the rate of significant levels of mother-reported behavior problems (50%) was the same in mothers with a current maternal depression and mothers who did not meet criteria for current depression.



Current maternal depression

Current maternal depression is defined as episode of depression (SCID) or moderate or severe degree of depressive symptoms (BDI)

Discussion

Conclusions from the current study are limited by the lack of an adequate sample that is representative of depressed, low-income mothers. The sample size was too small to conduct most statistical analyses and rates reported may be skewed by the small number of subjects. Furthermore, due to the difficulty in finding and contacting potential subjects, the subjects who participated are only a small fraction of potential participants and are not a random sample of depressed, low-income mothers.

The difficulties encountered in obtaining a representative sample in the current study raise questions about the use of traditional methodologies to assess treatment satisfaction in a Medicaid population. For example, attempts to follow up initial recruitment letters indicated that almost half of the women sent letters had subsequently moved to an unknown address. The use of a telephone follow-up was also ineffective in obtaining a random sample as current telephone numbers could not be obtained for the majority of the women. Even using a more intensive recruitment procedure than is typical (going to the homes of potential subjects), only twenty-one percent of potential subjects were contacted.

Despite the small sample size, the current findings of increased rates of emotional or behavioral problems among children of depressed mothers are consistent with previous studies. As seen in Table 1, rates of behavior problems in the current sample were similar to previous studies of depressed mothers (Anderson & Hammen, 1993; Lee & Gotlib, 1989).

Table 1

| Reference | N | Age | CBC* externalizing | CBC* internalizing |
|---------------------------|----------|------------|-------------------------------|-------------------------------|
| Troutman & Wiecek. 1996 | 17 | 2 to 18 | M = 62 SD = 10 | M = 60 SD = 8 |
| Anderson & Hammen, 1993** | 22 | 8 to 16 | M = 58 SD = 12 | M = 63 SD = 12 |
| Lee & Gotlib, 1989*** | 16 | 7 to 13 | M = 58 SD = 12 | M = 60 SD = 10 |

*CBC = Child Behavior Checklist

**Met Research Diagnostic Criteria (RDC) for recurrent major depressive disorder

***Met DSM-III criteria for dysthymic disorder or major depressive episode

Onset of behavior problems was quite early with approximately half of the children aged 2 to 7 exhibiting significant emotional and behavior problems, according to maternal report.

The severity of psychopathology of the mothers in this study appeared to be somewhat greater than that found in previous samples of depressed mothers. The age of onset was younger than previously reported (Hammen et al., 1990) and the number of lifetime episodes and psychiatric hospitalizations was greater than previously found (Hammen et al., 1990). The greater severity of psychopathology may be related to the current sample being restricted to low-income women.

The overall rate of mental health utilization by children in this sample appears to be quite high. One-third of the children had received mental health services and one-sixth had been psychiatrically hospitalized. Children had received treatment for both affective disorders and disruptive behavior disorders. Despite this high rate of mental health utilization, less than half of the children currently exhibiting a significant level of emotional or behavioral problems had ever received mental health services. Half of the children who received mental health services had been psychiatrically hospitalized. The high utilization of such an intensive type of intervention suggests that their problems were quite severe by the time they were identified.

Evaluation of parenting skills was not addressed in the current study. However, one out of four of the depressed women in this sample reported having their children removed by DHS. Furthermore, since this study excluded women who had no children living at home within the past month, this may underestimate the actual rate of severe parenting deficits in this population.

In conclusion, previous research has found that mothers with depressive disorders describe their children as exhibiting high rates of mental health problems (Gelfand & Teti, 1990; Hammen, et al., 1990; Lee & Gotlib, 1989; Weissman, et al., 1984; Weissman, et al., 1987). The preliminary findings reported here suggest that children of depressed, low-income mothers may be at risk of utilizing intensive (and expensive) mental health interventions due to their rate of emotional and behavioral problems. Although child behavior problems appeared to be an ongoing concern and source of stress for the depressed, low-income mothers in the current sample, only slightly more than half had received mental health services that addressed child behavior problems or parenting during the past 3 years.

Thus, further research examining early identification and prevention of parenting difficulties among depressed mothers and behavior problems among their children is clearly warranted. Due to the difficulty in contacting potential subjects, researchers will need to work closely with clinicians who provide treatment for depressed women to identify a representative sample.

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