Predictors of Depressive Symptomatology Among Lower Social Class Caregivers of Persons with Chronic Mental Illness

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ABSTRACT: This study examined the predictors of depressive symptomatology among caregivers of persons with chronic mental illness. Data were collected through in-person interviews with family caregivers of 103 adults with chronic mental illness who were served by mental health case management agencies. The results indicated that insufficiency of overall social support was the most powerful predictor of caregiver depressive symptomatology. In addition, caregiver burden had a significant unique contribution to caregiver depressive symptomatology, with higher levels of burden associated with greater levels of caregiver depressive symptomatology. Higher levels of client behavioral problems and insufficient support from family members and mental health professionals related to the caregiving role were associated with higher levels of caregiver depressive symptomatology through their associations with caregiver burden. Caregiver race was not significantly related to caregiver burden or to caregiver depressive symptomatology after controlling for other variables. Over two-fifths of White caregivers and over one-quarter of Black caregivers were at risk for clinical depression. Implications for practice and research are discussed.

Studies over the past several decades have provided evidence that family caregivers of persons with chronic mental illness suffer from a number of significant stresses, experience moderately high levels of burden, and often receive inadequate assistance from mental health professionals (Biegel, Song, & Milligan, 1995; Davis, Dinitz & Pasaminick, 1974; Doll, 1976, Fisher, Benson, & Tessler, 1990; Grad & Sainsbury, 1963; Grella & Grusky, 1989; Hatfield, 1978; Holden & Lewine, 1982; Kreisman & Joy, 1974).

However, literature on the effects of caregiving on caregivers of persons with mental illness has a number of limitations. First, very few studies have examined mental health outcomes of caregiving, such as the extent of depressive symptomatology that caregivers experience and the correlates of such symptomatology (Oldridge & Hughes, 1992; Pickett, Vraniak, Cook, & Cohler, 1993; Streuning, Stueve, Vine, Kreisman, Link, & Herman, 1995).

Although some aspects of the caregiving experience are unique to a particular illness, there are a number of variables that have been found to predict caregiver stress across illnesses, thus validating the importance of cross illness examinations of the caregiving experience. Outcomes of caregivers of persons with mental illness have focused, for the most part, on caregiver burden. In contrast, research with other caregiver populations have examined a number of enduring outcomes of caregiving, such as psychiatric morbidity, role changes, and the decision to institutionalize the patient (Biegel, Sales, & Schulz, 1991; Schulz, 1990). Among psychiatric symptoms, depression or demoralization is the most frequently studied symptom, and, overall, the empirical evidence indicates that caregivers exhibit higher levels of psychiatric symptomatology when compared to appropriate comparison groups (Biegel, Sales, & Schulz, 1991; Haley, Levine, Brown, Berry & Hughes, 1987).

Second, previous research studies have tended to underrepresent particular populations of caregivers. Many studies have drawn samples from caregivers who participate in support groups; these caregivers are predominantly white, middle-class and are not representative of the diversity of caregivers of persons with chronic mental illness (Biegel, Milligan, Putnam, & Song, 1994) . Attention to issues of social class is important because there is evidence of significant differences in the predictors of caregiver burden between caregivers with higher and lower socioeconomic status (Biegel, Song, & Chakravarthy, 1994; Biegel, Milligan, Putnam, & Song, 1994).

To address these limitations, the purpose of this study is to examine

the extent of depressive symptomatology that caregivers experience and the predictors of such symptomatology, with specific focus on Black and White caregivers with lower socioeconomic status. Specifically, the study aims to answer two research questions:

1). What levels of depressive symptomatology do caregivers of persons with severe mental illness experience?
2). To what extent does caregiving related burden contribute to caregiver depressive symptomatology after taking into account other variables?

The answers to these questions can provide important information to mental health professionals in their interactions with caregivers concerning the care of their family members and in the development of specific interventions designed to address caregivers' needs.

REVIEW OF THE LITERATURE

To date, research studies have identified two broad sets of factors affecting the degree of distress and enduring outcomes experienced by family caregivers across a variety of chronic illnesses (Biegel, Sales & Schulz, 1991; House, 1974). The first set pertains to conditions conducive to stress (stressors), and includes: patient functional status, length of illness, behavioral problems, and prognosis. Contextual variables, the second set, includes: demographic and socioeconomic characteristics of caregivers, caregiver health status, and caregiver social networks and social support systems (Biegel, Sales, & Schulz, 1991). Both sets of variables are hypothesized to impact perceived stress (burden) of caregivers and enduring outcomes of caregiving (e.g., life satisfaction, depression, psychological well-being, etc.). Furthermore, caregiving related burden is hypothesized to have significant association with enduring outcomes of caregiving. It should be noted that most of the literature reviewed are studies of depressive symptomatology among caregivers of other chronic illnesses since only a few studies have examined depressive symptomatology among caregivers of persons with chronic mental illness.

Stressors

Client Behavioral Problems. Studies examining the relationship between patient impairment and depression have found that care-

givers experienced more depressive symptoms when their family members presented more behavioral problems (Haley, Levine, Brown, & Bartolucci, 1987; Schulz & Williamson, 1991; Struening et al., 1995). Furthermore, Haley et al. (1987) found that caregivers' subjective rather than objective appraisals of their patients' problems were more powerful predictors of depression. In their study, Struening et al (1995) found a modest relationship between the number of psychiatric symptoms and caregiver depressive symptomatology.

Contextual Variables

Caregiver Gender. Findings generally indicated that female caregivers report more depressive symptoms than men (Gallagher, Rose, Rivera, & Thompson, 1989; Schulz & Williamson, 1991). Pruchno & Resch (1989) found wives of Alzheimer's patients had higher level of depression than their counterparts. However, the study by Jones & Peter (1992) found no significant gender effects on caregiver depression.

Race. Pickett et. al (1993) studied the differences between White and Black parents of a child with severe mental illness on coping mastery ability, self-esteem, and emotional well-being, and found that White fathers had significantly higher depression scores than Black fathers. No significant differences were found between White and Black mothers. The authors argued that the differences may be due to the fact that Blacks often live with greater life strains than Whites, as such they maintain attitudes that enable them to deal with stressors without being affected by adversity in life. However, it is noteworthy that this argument may not be true for mothers. Furthermore, their study found no significant racial differences on caregiver burden which is consistent with some previous research (Biegel et al., 1994).

Living Status. Cohen & Eisdorfer (1988) found that caregivers who lived with ill relatives had higher depression scores than caregivers who did not. In addition, caregivers not living with their ill relatives did not meet clinical criteria for depression.

Caregiver Health. Several studies have examined the effect of caregiver health on caregiver depression and have shown that caregiver health was an important predictor of caregiver depressive symptomatology. Morrissey, Becker, & Rubert (1990) found that caregiver

health status was a significant predictor of depression for both workers and homemakers while holding perceived negative impact, financial adequacy, patient disability level and non-kin network size constant. Also, Pruchno & Resch (1989) found that physical health was the only significant predictor of depression among male caregivers of spouses with Alzheimer's disease, and was the strongest of two predictors for depression among female caregivers while controlling for other variables.

Social Support. Social support has been examined in terms of both overall support as well as support pertaining specifically to the caregiver role. Inconsistent findings emerged among studies regarding the effect of overall social support on caregiver depressive symptomatology. Rivera and colleagues (1991) compared depressed and non-depressed caregivers and found that there was no significant difference in 'available support network.' However, the longitudinal study by Schulz & Williamson (1991) showed that less perceived social support had a positive and significant association with caregiver depression, and that this relationship was sustained over time.

Struening et al. (1995) examined the relationship between caregiver support variables and caregiver depressive symptomatology with caregivers of persons with mental illness. Findings indicated that support from caregivers' networks and the quality of their relationship with health providers were strongly associated with caregiver depressive symptomatology. Biegel et al. (1994) also found that support from family members and mental health professionals were significant predictors of caregiver burden.

Caregiver Burden

Studies have shown that caregiver burden has a significant effect on caregiver depressive symptomatology. Townsend et. al (1989), utilizing causal modeling, found that current caregiver subjective stress had significant effects on caregiver depression. A study of caregivers of stroke patients by Thompson et al. (1990) indicated that perceptions of burden had significant zero-order correlations with depression among caregivers. Research with caregivers of persons with mental illness revealed a significant correlation between caregiver burden and depression for the White sample (Pickett et. al, 1993). Oldridge & Hughes (1992) found a significant correlation between subjective burden and caregiver depression.

METHODS

Study Sample

Data for this analysis derive from a convenience sample of 162 adults with severe mental disability who were currently being served by mental health case management agencies and who agreed to have their family caregiver, defined as a family member who provides emotional and concrete support to the client, contacted for a study interview. A screening form was used to identify the primary family caregiver. We were able to contact family caregivers of 148 of these clients, and 120 of them, or 81%, agreed to be interviewed. Of the 120 completed interviews, 17 were eliminated because their scores on the Hollingshead and Redlich Two Factor Index of Social Position, a measure of social class, indicated that their social class rating was too high for our purposes (scores< 25 (Hollingshead & Redlich, 1958). The final sample was 103[1] cases (55 were White and 48 were Black).

Study Procedures

In-person interviews were conducted by 19 trained interviewers, eight Black and eleven White, over a fifteen-month period. Caregivers were informed about the purpose of the study, to improve knowledge about the life situation of persons who are caregivers of persons with chronic mental illness, through an introductory letter and follow-up phone call. Caregivers who consented to participate in the study were interviewed by the interviewers who were matched with their race because part of questionnaire asked family caregivers questions about perceived racial barriers to service. Previous research indicates that matching produces more complete and valid responses (Jackson, 1991).

Variables and Instruments

Based upon the sets of factors affecting caregiver distress identified in our literature review, the potential predictors of caregiver depressive symptomatology were categorized as either stressors, contextual variables, or caregiver burden.

Stressors

Client Behavioral Problems. A thirty-eight item behavioral problems scale was designed for this study to tap caregiver perceptions of client behavioral problems. Using a five point scale, caregivers were asked to report the frequency of a wide range of possible client behaviors in the last month. For example, sleeping problems, taking medication, hallucinations, money management, suspiciousness, or forgetfulness. The

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[1] In order to test the representativeness of our study sample, a random sample of adults with severe mental disorder who had a primary family caregiver indicated on their intake form, was drawn from the case records of the local mental health board in the study community. Comparisons with our study sample and this random sample indicate that the two samples are quite similar. Among Black clients, there are no statistically significant differences in client gender, age, and clients' relationship with family caregiver between the clients who are in the study and the clients who are not in the study. Among White clients, the only significant differences between the clients who are in the study and the clients who are not included in the study is in that the former group is slightly younger than the latter (p ≤ .01).

items of this scale had high internal consistency in our sample (Cronbach's alpha = .92). A summation score was computed to represent levels of client behavioral problems; the higher the score, the greater the degree of client behavioral problems.

Contextual Variables

Caregiver and Client Characteristics. Data were obtained from family caregivers about their gender, race, and relationship to their ill family member. Family caregivers also provided data about their ill family members age, length of illness, and living arrangements. Information about clients' diagnosis was obtained from records of the local mental health board.

Caregiver Health. The study asked caregivers to rate their overall health as: excellent (1), very good (2), good (3), fair (4), and poor (5).

Overall Social Support. A sixteen-item scale was used for measuring overall social support. The scale was developed using items measuring appraisal, belonging, financial, and emotional support taken from the Interpersonal Support Evaluation List (ISEL) (Cohen, Mermelstein, Kamarck, & Hoberman, 1985). Respondents were asked to rate their opinion of each item on a four-point scale (Definitely True (0) to Definitely False (3))(Biegel, Milligan, Putnam, & Song, 1994). This scale achieved acceptable reliability (Cronbach's alpha = .84) in our sample, with higher scores indicating more social support.

Caregiving Support. A single question was asked caregivers about the social support they received in connection with the performance of their caregiver role. Respondents used a five point scale to rate their satisfaction with the amount of help and support they received from their family members ((1) Much less than needed to (5) Much too much). They were also asked the same question concerning the amount of help they received from mental health professionals.

Caregiver Burden

A twenty-seven item scale of overall caregiver burden was developed for this study based on selected items from: the Caregiver Burden Scale (Zarit, Reever, and Bach-Peterson, 1980), the Family Distress Scale (Pasaminick, 1967), and a review of the research literature on burden of caregivers with mental illness. The scale measured feelings that caregivers have about their psychological well-being, social life, and their family member with mental illness (e.g., feeling inadequate, resentful, stressed, useful, depended upon, embarrassed, in regard to the care recipient). Subjects responded to each item on a five-point scale (Never (0) to Almost Always (4)). Acceptable reliability was reached for the scale (Cronbach's alpha = .87).

Caregiver Depressive Symptomatology

The Center for Epidemiologic Studies Depressive Mood Scale (CES-D; Radloff, 1977) was utilized to measure caregiver depressive symptomatology. This 20-item scale was designed to identify individuals at risk for depression. It has been used in clinical and psychiatric settings (Corcoran & Fischer, 1987). In addition, the instrument has been widely used in the studies of Alzheimer's caregivers. The scale items are measured by

asking respondents to indicate on a 4-point scale (0 to 3) how often they experienced each symptom during the previous week. Scores range from 0 to 60 with higher scores reflecting more depressive symptoms. This scale had satisfactory reliability (Cronbach's alpha = .90).

Statistical Procedures

Two steps of simultaneous regression analyses were conducted to examine the extent to which caregiver depressive symptomatology can be attributed to caregiving related burden, including the unique contribution of caregiver burden as well as the associations between caregiver burden and the stressor and contextual variables. We first used Caregiver Burden as the dependent variable to see if there was a significant association between Caregiver Burden and Client Behavioral Problems and the contextual variables. We then conducted comparisons on three regression models to assess the unique and combined impact of Caregiver Burden, Client Behavioral Problems and contextual variables on Caregiver Depressive Symptomatology. Caregiver Depressive Symptomatology served as the dependent variable in the three separate regression models. Model 1 (hereinafter referred to M_1) contains only the Caregiver Burden as the independent variable. In Model 2 (M_2), we examined only the effects of Client Behavioral Problems and contextual variables on Caregiver Depressive Symptomatology. Model 3 (M_3) included Caregiver Burden, Client Behavioral Problems and the contextual variables as independent variables. Therefore, M_1 and M_2 were nested within M_3. Through comparing the explained variance (R^2) of M_3 versus M_2, the unique contributions of Caregiver Burden on Caregiver Depressive Symptomatology were assessed by calculating the R^2 difference ($M_3 - M_2$). Likewise, the unique variance in Caregiver Depressive Symptomatology attributed to Client Behavioral Problems and the contextual variables was obtained by calculating the R^2 difference between M_3 and M_1. Finally, the joined effects of Caregiver Burden and Client Behavioral Problems and the contextual variables on Caregiver Depressive Symptomatology can be computed by subtracting the total explained variance in M_3 from the unique contributions of Caregiver Burden and from the unique contributions of Client Behavioral Problems and the contextual variables.

RESULTS

Sample Characteristics

Ages of clients of caregivers ranged from 22 to 69 years, with a mean of 40 years. The sample was almost equally divided by gender. More than half (53%) of the clients lived with their family caregiver, while one-quarter lived in their own homes or apartments. Clients had experienced mental illness over an average period of almost 15 years, with a range of from 1 to 41 years. Over three-quarters (75.8%) of the clients had a diagnosis of schizophrenia, while the remaining one-quarter (24.2%) of clients had affective, neurotic, personality or other disorders.

The mean age of caregivers was 55, with a range from 24 to 87. More than one-third (38%) of the caregivers were elderly (60 years and

older). Similar to other caregiver populations, more than three-quarters (77%) of the caregivers were women. The majority (55%) of caregivers were parents of the family member with mental illness, while the remaining caregivers included siblings (20%), spouse (11%), child (8%), or other relative (6%). One-half of the caregivers were married.

The mean rating of Client Behavioral Problems by caregivers was 31, with a range of 0 to 97. About 63% of caregivers were in good to excellent health. The caregivers' levels of overall social support fell into the middle range of the scale (M = 31.8, range = 5.39 to 45). In addition, about one-half of the caregivers perceived they had insufficient family support (M = 2.3). Also, 41% of the caregivers felt that they did not get enough help from mental health agency professionals (M = 2.5). The caregivers reported low to moderate levels of burden (M = 28.6, range = 0 to 84).

The mean score on the CES-D scale for the entire sample was 12.71 (SD = 10.57). White caregivers had a CES-D mean score of 14.58 (SD = 11.64), which is much higher than the mean range (7.94 to 9.25) for the general population of White respondents (Corcoran & Fisher, 1987). No mean score in the general population of Black respondents was available for comparison. However, Cox & Monk (1990) reported a mean CES-D score of 9.74 for Black caregivers of Alzheimer's patients in their study. Black caregivers in our sample had similar levels of depressive symptomatology (M = 10.51, SD = 8.79). White caregivers in our sample had significantly higher levels of depressive symptomatology than Black caregivers (t = 2.01; p = .05). Using a score of 16 or above to indicate possible cases of clinical depression (Schulz & Williamson, 1991), 41.8% (n = 23) of the White caregivers and 27.7% (n = 13) of the Black caregivers in the present sample were at-risk.

Multiple Regression Analyses

The data were composed of 103 cases. However, 14 cases were excluded from the analysis due to listwise deletion of missing cases, and 3 outliers (with a standardized residual ≥ 3) were found during the multiple regression analysis. As a result, 86 cases were retained for the analyses. Three dummy variables were created and used in the regression analyses: client living status (1 = living with caregivers, 0 = not living with caregivers), gender (1 = male, 0 = female), race (1 = Black, 0 = White).

Step 1. Regression Analysis on Caregiver Burden. Client Behavioral Problems and the seven contextual variables explained 57% of the variance in Caregiver Burden (F = 14.88; df = 8, 77; $p < .0001$) (see Table 1).

TABLE 1

**Regression Statistics of Predictors of Overall
Caregiver Burden (Valid Cases = 86)**

Variables	B^a	$Beta^b$	T Value	p Value
1. Client Behavior Problems	.36	.60	7.46	.000
2. Caregiver Gender	−4.58	−.13	−1.80	.075
3. Caregiver Race	−3.97	−.13	−1.72	.089
4. Client Living Status	−3.63	−.12	−1.59	.116
5. Caregiver Health	−.17	−.01	−.16	.877
6. Overall Social Support	−.17	−.10	−1.10	.273
7. Sufficiency of Family Support	−3.17	−.19	−2.40	.019
8. Sufficiency of Agency Support	−3.15	−.20	−2.53	.014

Multiple R = .80; adjusted R^2 = .57; F(8,77) = 14.88; p < .001

Note: ^{a}B: Unstandardized regression coefficients
^{b}Beta: Standardized regression coefficients.

Client Behavioral Problems, Sufficiency of Family Support, and Sufficiency of Agency Support were found to be significant predictors. Client Behavioral Problems was the strongest predictor (Beta = .60); that is, the more client behavioral problems reported by caregivers, the higher the perceived caregiver burden. Also, caregivers who reported sufficient support from both family members and mental health professionals were less likely to feel burdened by caregiving responsibilities.

Step 2: Model Comparisons. As reported in Table 2, in M_1, Caregiver Burden alone explained 16% of the variance in Caregiver Depressive Symptomatology. In M_2, 35% of the variance in Caregiver Depressive Symptomatology was attributed to Client Behavioral Problems and the seven contextual variables. Among the independent variables in M_2, only Overall Social Support was significant. The higher the levels of Overall Social Support the caregivers received, the lower their levels of depressive symptomatology. In M_3, Caregiver Burden, Client Behavioral Problems and the seven contextual variables together explained 37% of the variance in Caregiver Depressive Symptomatology. Overall Social Support and Caregiver Burden were significantly related with Caregiver Depressive Symptomatology, with the former being the strongest predictor (Beta = −.45 vs. .27).

TABLE 2

Model Comparisons on Predictors of Caregiver Depressive Symptomatology (N = 86)

Models	B^a	$Beta^b$	T Value	P Value
Model 1: Overall Burden				
Caregiver Overall Burden	.28	.41	4.12	.0001
Multiple R = .41; adjusted R^2 = .16; F(1,84) = 16.95; p < .001				
Model 2: Stressor and Contextual Variables				
1. Client Behavior Problems	.04	.10	1.04	.302
2. Caregiver Gender	−1.56	−.07	−.74	.459
3. Caregiver Race	−2.82	−.14	−1.48	.143
4. Client Living Status	1.84	.09	.98	.332
5. Caregiver Health	.44	.05	.50	.616
6. Overall Social Support	−.59	−.48	−4.55	.000
7. Sufficiency of Family Support	−1.47	−.13	−1.35	.181
8. Sufficiency of Agency Support	1.38	.13	1.34	.183
Multiple R = .64; adjusted R^2 = .35; F(8,77) = 6.67; p < .001				
Model 3: Overall Burden and Stressor and Contextual Variables				
1. Overall Caregiver Burden	.18	.27	1.99	.051
2. Client Behavior Problems	−.02	−.06	−.48	.633
3. Caregiver Gender	−.72	−.03	−.34	.732
4. Caregiver Race	−2.09	−.10	−1.10	.275
5. Client Living Status	2.51	.12	1.33	.187
6. Caregiver Health	.47	.05	.55	.586
7. Overall Social Support	−.56	−.45	−4.35	.000
8. Sufficiency of Family Support	−.89	−.08	−.80	.425
9. Sufficiency of Agency Support	1.96	.18	1.87	.066
Multiple R = .66; adjusted R^2 = .37; F(9,76) = 6.60; p < .001				

Note: [a]B: Unstandardized regression coefficients
[b]Beta: Standardized regression coefficients.

Figure 1 depicts the results of model comparisons on R^2 in order to demonstrate the unique contributions of each set of predictor variables. As can be seen, Caregiver Burden uniquely contributed 2% (M_3 [37%] − M_2[35%]) of the variance in Caregiver Depressive Sympto-

Figure 1

Explained Variance in Caregiver Depressive Symptomatology

Adjusted R^2 = 37%
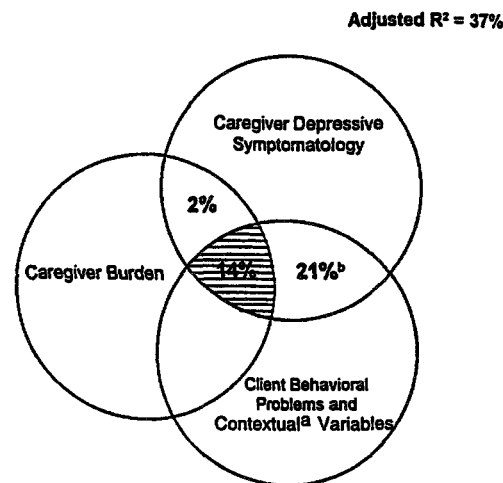
Note: a = The contextual variables include caregiver gender, caregiver race, client living status, caregiver health, overall social support, sufficiency of family support and sufficiency of agency support; b = Mainly explained by overall social support.

matology. On the other hand, 21% ($M_3[37\%]$ − M_1 [16%]) of the variance was uniquely explained by the block of Stressor and Contextual variables, and it was mainly explained by Overall Social Support. Furthermore, 14% (37% − 2% − 21%) of the variance in Caregiver Depressive Symptomatology were jointly contributed by Caregiver Burden and Client Behavioral Problems and the contextual variables. As reported earlier, the three variables related to caregiver role (Client Behavioral Problems, Sufficiency of Family Support, and Sufficiency of Agency Support) were the variables which had significant associations with Caregiver Burden. Therefore, such associations accounted for most of the 14% variance in Caregiver Depressive Symptomatology.

In summarizing the role of caregiving related burden, it can be seen that burden explained about 16% of the variance in Caregiver Depressive Symptomatology. Client Behavioral Problems had a positive and significant impact on Caregiver Depressive Symptomatology through

its associations with Caregiver Burden. Higher levels of client behavioral problems and caregiver burden were related to higher levels of caregiver depressive symptomatology. Likewise, the associations between Caregiver Burden and both Sufficiency of Family Support and Agency Support had important effects on Caregiver Depressive Symptomatology. Clients with higher perceived family support and agency support and less caregiver burden, were less likely to have depressive symptomatology. Finally, it should be noted that Overall Social Support was the most important predictor of Caregiver Depressive Symptomatology even after taking into account caregiver burden, client behavioral problems, and other variables.

DISCUSSION

Our findings indicated that caregivers of persons with severe mental illness indeed presented evidence of depressive symptomatology, and caregiving related burden had significant contributions to such depressive symptomatology. Most of this association can be attributed to caregiver burden related to client behavioral problems and lack of family support and agency support in caregiver roles.

It is interesting to note that Overall Social Support had a stronger association with Caregiver Depressive Symptomatology than did the variables specifically related to caregiving. The caregiving literature has documented that the social support of caregivers of persons with mental illness may diminish over time due to the societal stigma of mental illness, and/or caregivers' lack of skill, energy or motivation to engage in social relations (Biegel & Tracy, 1993; Cutler & Tatum, 1983; Hatfield, 1978). Lefley (1989) has argued that "The behaviors of persons with psychotic disorders may further isolate the family, diminish its reputation, and jeopardize relationships with friends and neighbors" (p.557). Toward this end, the correlation between Client Behavioral Problems and Overall Social support was examined and found to be moderate ($r = -.40$). The result demonstrated that Client Behavioral Problems may have impact on Caregiver Depressive Symptomatology not only through Caregiver Burden but also through Overall Social Support.

Caregiver gender was not a significant predictor for either caregiver burden or caregiver depressive symptomatology. Although in the Alzheimer's caregiving literature, most studies found that female care-

givers present more depressive symptoms. Schulz & Williamson (1991) noted that men were more likely than women to experience increases in depressive symptoms over time. Thus, given the long period in which the caregivers' family members had been ill in our sample (mean = 15 years), any gender differences on caregiver depressive symptomatology present in the onset stage of the client's mental illness might have disappeared over time. However, longitudinal studies are needed to test this hypothesis.

Race was neither significantly related to caregiver burden nor was it related to caregiver depressive symptomatology. Even though White caregivers had significantly higher levels of depressive symptomatology than Black caregivers (14.58 vs. 10.51), this significant difference disappeared when other variables were taken into account (client behavioral problems, client living status, caregiver gender, and overall social support). This finding does not support the race differences reported by Pickett et. al (1993). It should be noted, however, Picket et. al's sample had a higher SES sample than the current study sample. This makes direct comparisons between the studies difficult due to the potential confounding effects of social class and race.

In addition, unlike the findings in the Alzheimer's disease caregiving literature, this study did not find significant effects of caregiver physical health and client living status on caregiver depressive symptomatology. However, these findings are not conclusive. Because this study focused only on caregivers with lower socioeconomic status, the relationship between caregiver health and client living status and caregiver depressive symptomatology need to be tested further with caregivers of higher socioeconomic status.

Implications for Mental Health Professionals

Our findings indicated that, over two-fifths of the White caregivers and over one-quarter of the Black caregivers in our sample were at risk for clinical depression. This finding is important because caregivers shoulder huge responsibilities when taking care of family members with chronic mental illness on a daily basis. The deterioration of caregivers' emotional state may impact their ability to continue their role responsibilities. In addition, the mental health of both clients and family caregivers should be viewed as equally important; it is not justifiable to secure the mental health of one person at the expense of another.

Our data provide important information which can aid understanding and, therefore, address caregiver depressive symptomatology.

Caregivers' overall social support was found to be the strongest predictor for caregiver depressive symptomatology. People with stronger support systems which provide instrumental and/or emotional support have fewer depressive symptoms. Our findings also provide support for the hypothesis that client behavioral problems, through their association with caregiver burden, may have an adverse impact on caregiver depressive symptomatology. These findings reveal two critical issues. One is the importance of strengthening caregivers' social support systems, the other is the need to address the management of client behavior problems. Both are long standing difficulties that caregivers of persons with mental illness have encountered (Biegel & Tracy, 1993; Cutler & Tatum, 1983; Hatfield, 1978; Lefley, 1989). Professionals can play an important role in helping family caregivers regulate clients' medication and in providing training to caregivers in managing client behavioral problems. In doing so, professionals may help alleviate caregiver depressive symptomatology. When clients' symptoms are stabilized and clients present less disruptive or threatening behaviors, caregivers may feel less burdened and this may alleviate their depressed mood.

Sufficiency of both family support and agency support concerning the caregiving role had significant indirect effects on caregiver depressive symptomatology through caregiver burden. Help from family members and agency professionals may help relieve caregiver burden. Once caregivers perceive less burden, they may be less likely to present depressive symptoms. Case managers can be supportive to both caregivers and clients by helping persons with mental illness to maintain and/or strengthen their social networks. Taking together the significance of both client behavioral problems and agency support concerning caregiver depressive symptomatology, it is suggested that case managers can also help caregivers through the provision of psychoeducational programs. This type of program offers the opportunity of mutual support among caregivers in sharing difficult and painful experiences, and skill development regarding managing client behavioral problems. Studies have demonstrated that psychoeducational programs provided to caregivers of persons with mental illness can be effective in decreasing client rehospitalization rates and symptoms; they also significantly increase clients' medication compliance (McFarlane, 1993). In addition, two experimental studies targeting caregivers of patients with Alzheimer's disease have demonstrated that psychoeducational programs have positive effects in reducing caregiver depressive symptomatology (Greene & Monahan, 1989; Kahan et al., 1985).

Implications for Future Research

Limitations of this study include the lack of a random sample of care-givers, a relatively small sample size, and its cross-sectional design. Due to the fact that our study used a cross-sectional design, the find-ings concerning the relationships among client behavioral problems, social support, perceived burden, and caregiver depressive symp-tomatology support significant association but not causality. Longi-tudinal research is needed in order to further articulate the causal linkages between the significant predictors found in this study and caregiver depressive symptomatology. Finally, studies utilizing experi-mental designs should be implemented to evaluate the effects of psy-choeducational programs on preventing or decreasing depressive symptomatology among caregivers of persons with chronic mental ill-ness.

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