

PREVALENCE OF  
DISSOCIATIVE SYMPTOMS  
AND DISORDERS WITHIN  
AN ADULT OUTPATIENT  
POPULATION WITH  
SCHIZOPHRENIA

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#### ABSTRACT

*Objective:* The objectives of this study were to determine the prevalence of dissociative symptoms and disorders in an adult outpatient population with schizophrenia and to study the relationship between dissociative symptoms and positive and negative symptoms of schizophrenia. *Method:* Consenting adult outpatients with schizophrenia from the Kingston Psychiatric Hospital in Kingston, Ontario, were administered the Dissociative Experiences Scale (DES). Patients scoring 25 or higher on the DES were interviewed with the Positive and Negative Syndrome Scale (PANSS), and two interviews for dissociative disorders: the Structured Clinical Interview for DSM-IV Dissociative Disorders (SLID-D) and the Dissociative Disorders Interview Schedule (DDIS). *Results:* 53 patients completed the DES, and 14 (26%) scored 25 or greater. The scores on the DES subscale of absorption and imaginative involvement were significantly higher than the scores of the two other DES subscales, for both the group scoring >25 and also for the study sample as a whole. The prevalence of dissociative disorders in this population was estimated to be 9%, with dissociative amnesia the only dissociative disorder diagnosed. The high DES scorers had a predominance of positive symptoms as evidenced by a composite index score (positive symptoms score minus negative symptoms score) of 4.1, placing these patients at the 80th percentile, when compared to a normative population of patients with schizophrenia. *Conclusions:* The finding of consistently elevated scores on the absorption and imaginative involvement subscale of the DES in this sample suggests that the DES may not be a valid instrument to screen for dissociative disorders among patients with schizophrenia. However, patients with schizophrenia who present with a predominance of positive symptoms should be assessed for the presence of a dissociative disorder.

#### INTRODUCTION

Dissociative disorders are being recognized as increasingly significant psychiatric conditions (Ross, Anderson, Fleisher, & Norton, 1991; Saxe et al., 1993; Horen, Leichner, & Lawson, 1995; Ellason, Ross, Mayran, & Sainton, 1994). Not only is the primary diagnosis of dissociative disorders escalating, these disorders are also present as a comorbid condition in as many as 15-20% of adult psychiatric inpatients (Ross et al., 1991; Saxe et al., 1993; Horen et al., 1995). However, with many patients receiving numerous different diagnoses prior to the recognition of a dissociative disorder, the diagnosis of dissociative disorders is often overlooked or significantly delayed (Saxe et al., 1993; Steinberg & Steinberg, 1994). Diagnosis of these conditions is complicated by the tendency for patients to present with symptoms which resemble other disorders, notably schizophrenia (Ross et al., 1991; Saxe et al., 1993; Steinberg, Rounsaville, & Cicchetti, 1990). Patients with schizophrenia and those with a dissociative disorder such as dissociative identity disorder (DID - formerly multiple personality disorder) tend to present with Schneiderian first-rank symptoms. This leads to between 26-49% of DID patients receiving a prior diagnosis of schizophrenia (Gainer, 1994). Schneiderian first-rank symptoms include delusions, auditory hallucinations, thought insertion/withdrawal, and feelings of external control of one's thoughts, feelings or actions. Recent evidence has shown that the dissociative population may endorse these symptoms to a greater extent than do schizophrenics (Ellason & Ross, 1995). In a study by Ross et al. (1990), 1,739 schizophrenic patients possessed an average of 1.3 Schneiderian symptoms each, whereas 368 patients with dissociative identity disorder acknowledged an average of 4.9 of these symptoms (Ellason & Ross, 1995).

A recently published study, which examined the prevalence of dissociative disorders in a Canadian adult psychiatric inpatient population, found that 29% of patients possessed dissociative psychopathology, and an estimated 17% of the patients had a diagnosable dissociative disorder based on clinical interview criteria (Horen et al., 1995). However, a major problem with diagnosing dissociative disorders in schizophrenic inpatients was noted because these patients were often too symptomatic to be assessed proper-

ly (Horen et al., 1995). This was evidenced by the finding that among the group of patients who attempted to complete the DES, but gave contradictory information, 69% were patients with schizophrenia. The mean DES score for this group was 40.8. However, the values were not included as part of the final study due to the inconsistencies. This is a very high DES score which significantly exceeds the cut-off score of 25 which has been determined to indicate dissociative psychopathology (Draijer & Boon, 1993). Furthermore, schizophrenia was a primary diagnosis in 75% of the patients considered eligible for the study but who did not participate (refusals by patients or their physicians). These difficulties in accurately assessing the schizophrenic population made the results of that study hard to extrapolate to patients with schizophrenia (Horen et al., 1995). The objectives of this study were to assess the prevalence of dissociative symptoms and disorders among patients with schizophrenia and to further our understanding of these symptoms in this population. This may be of importance as specific treatment could be used for dissociation where necessary.

## METHODS

In the first part of this study, consenting schizophrenic outpatients at the Kingston Psychiatric Hospital were administered the Dissociative Experiences Scale (DES) self-report questionnaire. The DES score was used as an indicator of the presence of dissociative symptoms.

Patients scoring 25 or greater on the DES were included in the second part of this study. Those subjects were interviewed with the Positive and Negative Syndrome Scale (PANSS), and two interviews for dissociative disorders - the Structured Clinical Interview for *DSM-IV* Dissociative Disorders (SCID-D) and the Dissociative Disorders Interview Schedule (DDIS). The PANSS test was used to gauge the levels of positive and negative schizophrenic symptoms, while the SCID-D and the DDIS were employed to determine both a Diagnostic and Statistics Manual (*DSM-IV*) diagnosis for the dissociative disorders, and also to determine the severity of these symptoms.

## INSTRUMENTS

The Dissociative Experiences Scale (DES) is a brief 28-item self-report questionnaire which has been used extensively in the field of dissociation (Ellason et al., 1994; Carlson & Putnam, 1993; Smyser & Baron, 1993). The test-retest reliability is 0.84; there is good split-half reliability and good clinical validity (Ross, et al., 1991; Saxe et al., 1993). Each question on the DES addresses a symptom of dissociation which the subject is asked to rate on a scale of 0-100% according to the frequency with which the symptom is experienced in daily life. The DES is designed as a trait measure

of dissociative symptoms with a high score indicating a tendency towards dissociation as opposed to establishing a diagnosis of a dissociative disorder. The cut-off score for further dissociative interviews was chosen to be 25. The reason for choosing this score was that 25 was judged to be the optimal score for detection of dissociative disorders by Draijer and Boon (1993), and 25 was the cut-off score in the recent study examining dissociative disorders in a Canadian psychiatric inpatient population (Horen et al., 1995; Draijer & Boon, 1993).

Factor analysis has indicated that the DES produces measurements on three subscales: amnesic dissociation; absorption and imaginative involvement; and depersonalization/derealization (Carlson & Putnam, 1993) Just as schizophrenia has positive and negative symptoms associated with its disease process, dissociative disorders have different elements to their pathology. Although caution has been suggested by Carlson and Putnam (1993) in assigning too much reliance to these subscales, a recent study indicated the test-retest reliability of the DES subscales to be 0.95, 0.89, and 0.82 for amnesia, depersonalization/derealization and absorption and imaginative involvement, respectively (Dubester & Braun, 1995). Therefore, we believe that the use of these subscales may be helpful in furthering the understanding of the relationship between schizophrenia and dissociative symptomatology.

The Positive and Negative Syndrome Scale (PANSS) is a semi-structured interview which produces scores from one (symptom absent) to seven (severe symptomatology) on each of 30 items (Kay, Opler, & Fiszbein, 1986; Kay, Opler, & Fiszbein, 1992). The thirty items assessed by the PANSS are divided into three sub-scales: positive symptoms, such as delusions and hallucinatory behaviour (7 items); negative symptoms, including emotional withdrawal and poor rapport (7 items); and general psychopathology, such as anxiety and depression (16 items). A fourth subscale can be used which results from the positive minus negative scores, producing a composite score which indicates the predominance of either positive or negative symptoms (Kay et al., 1992). The PANSS has been evaluated for its reliability and validity (Kay, Opler, & Lindenmayer, 1988; Kay, Opler, & Lindenmayer, 1989; Bell et al., 1992). Interrater reliability has been consistently measured at 0.83-0.87 (Kay et al., 1988; Kay et al., 1989). Test-retest reliability is assessed at 0.60, 0.68 and 0.80 for general psychopathology, negative, and positive symptoms, respectively (Kay et al., 1989). Internal reliability has been measured at 0.73-0.83 (Kay et al., 1989). Both construct validity and criterion-related validity tests have also shown that the PANSS is a sound instrument for the assessment of schizophrenic symptoms, as indicated by high correlation to the Andreassen assessment measures (Ellason & Ross, 1995; Kay et al., 1988). In order to ensure that the PANSS was implemented correctly, the authors reviewed the four hours of PANSS training tapes and independently rated the

subjects. The ratings by the authors corresponded to the video responses either exactly (on most items) or within one scale point.

The Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D) was designed to measure five areas of dissociative symptoms: amnesia, depersonalization, derealization, identity confusion, and identity alteration (Steinberg et al., 1990). For each of these five sections, questioning starts out with open-ended screening items and progresses to specific questions which ask the patient to describe the character and frequency of the espoused symptom (Steinberg et al., 1990). The responses from each of the symptom areas are then scored on a scale from 1 (symptom absent) to 4 (severely symptomatic), giving a total score ranging from 5 to 20. This measure is the first designed to enable an interviewer to make a diagnosis of a dissociative disorder (Steinberg et al., 1990). The SCID-D has good-to-excellent validity and reliability for the detection and diagnosis of dissociative symptoms and disorders (Steinberg & Steinberg, 1994).

The final instrument employed in this study is the Dissociative Disorders Interview Schedule (DDIS). As with the SCID-D, the DDIS is designed to give a DSM diagnosis for dissociative disorders (Ross et al., 1990). For diagnosis of dissociative identity disorder (DID), interrater reliability is 0.68, sensitivity is 90% and specificity is 100% (Ross et al., 1990). Unlike the SCID-D, the DDIS provides additional DSM diagnoses of somatization disorder, major depression, and borderline personality disorder if any or all of these are present. The DDIS also includes questions on areas associated with dissociative disorders such as Schneiderian symptoms, childhood physical and/or sexual abuse, and secondary features of DID (Ross et al., 1990). Thus, the DDIS and SCID-D serve to complement each other in the detection and diagnosis of a dissociative disorder.

Patient information collected included: age, gender, education level, marital status, time since first hospital contact, and primary diagnosis. This information was given by the subjects and verified from hospital records.

## DATA ANALYSIS

For the purposes of this project, the outpatient schizophrenic population for Kingston Psychiatric Hospital (KPH) was divided into two groups. First, the study group was composed of the patients approached when they presented to each of three Kingston psychiatric hospital outpatient services over a three month period ( $n=53$ ). The study group was further broken down into those who scored 25 or higher (high scorers) versus those who scored less than 25 (low scorers). Second, the control group was composed of all patients who were not contacted or refused to participate ( $n=193$ ). Due to the small number of patients who refused to participate in the study, they were not considered separately from the patients who were not contacted. Where

appropriate, group comparisons were tested using ANOVA or two-tailed t-tests.

## RESULTS

### *Sample*

There were 246 people registered as outpatients in the schizophrenia rehabilitation service at KPH. Permission was granted to approach each of these patients, of whom 65 were contacted (only 65 were contacted due to the large catchment area of KPH and the resulting infrequent visits by a majority of these patients). Of these 65 patients, 58 (89%) consented to complete the DES. However, upon chart review, it was determined that five of these patients had primary diagnoses other than schizophrenia, and were, therefore, excluded from the study sample. The 53 patients with schizophrenia who completed the DES comprised the study group. Seventeen (32%) of the 53 within the study group were female, and 36 (68%) were male.

### *Group Comparisons*

Demographic information used to compare the study sample ( $N=53$ ) with the remainder of the outpatient group ( $N=193$ ) are displayed in the first two columns of Table 1. There was no statistical difference between the groups for gender, marital status, education, and schizophrenic diagnoses. However, the study group proved to be younger ( $x = 41.6$  years) than the non-study group ( $x = 47.0$  years) ( $p=0.001$ ).

### *DES Results*

The mean DES score for the study group was 18.7 (range 0.0 - 61.1). Fourteen (26%) of the patients scored equal to or greater than 25 on the DES. Females comprised 33% of the group scoring  $<25$  and 29% of the group scoring  $>25$ . For the low scorers ( $<25$ ), the mean score was 10.7 (range 0 - 22.0). The mean DES subscale scores for this group were: 5.7 for the amnesic subscale, 7.0 for the depersonalization/derealization subscale, and 15.7 for the absorption and imaginative involvement subscale. For the high scorers ( $>25$ ), the mean DES score was 40.7 (range 25.4 - 61.1). The mean DES subscale scores for this group were 33.0 for the amnesic subscale, 35.3 for the depersonalization/derealization subscale, and 51.7 for the absorption and imaginative involvement subscale.

### *PANSS Results*

Of the 14 patients who scored  $>25$  on the DES, three refused further interviews, and one was lost to follow up. The remaining ten patients consented to participate in the PANSS interview. The mean total score was 70.3 (range 49 - 90). The PANSS rating manual suggests that the total score is best used as a measure of patient response to therapy, whereas the individual subscores give T-scores which allow comparison to a normative population of 240 schizophrenics. The

TABLE 1  
Demographic Variable Among Patients with Schizophrenia in Study Sample, Non-Study Sample and Low and High Scoring Groups on Dissociative Experiences Scale (DES)

Variable	Variable Description	Study Sample		Non-Study Sample		DES Score <25		DES Score = 25	
		N	(%)	N	(%)	N	(%)	N	(%)
<b>Total</b>	N	53		193		39		14	
<b>Gender</b>	Female	17	32.1%	71	36.8%	13	33.3%	4	28.6%
	Male	36	67.9%	122	63.2%	26	66.7%	10	71.4%
<b>Age</b>	Range	20-64		20-76		20-64		26-51	
	Mean	41.6		47		42.2		39.8	
	SD	9.2		12		9.7		7.8	
<b>Marital Status</b>	Single	38	71.7%	120	62.2%	26	66.7%	12	85.7%
	Married/Common Law	6	11.3%	26	13.5%	4	10.3%	2	14.3%
	Divorced/Separated	9	17.0%	40	20.7%	9	23.1%	0	0.0%
	Other	0	0.0%	7	3.6%	0	0.0%	0	0.0%
<b>Education</b>	None/Unknown	1	1.9%	12	6.2%	0	0.0%	1	7.1%
	Elementary-some/comp.	6	11.3%	38	19.7%	4	10.3%	2	14.3%
	Secondary-some/comp.	36	67.9%	109	56.5%	26	66.7%	10	71.4%
	Post Secondary-some	8	15.1%	18	9.3%	7	17.9%	1	7.1%
	Post Secondary-comp.	2	3.8%	16	8.3%	2	5.1%	0	0.0%
<b>Diagnosis</b>	Schizophrenia-paranoid	18	34.0%	66	34.2%	11	28.2%	7	50.0%
	Schizophrenia-residual	10	18.9%	60	31.1%	8	20.5%	2	14.3%
	Schizoaffective	12	22.6%	26	13.5%	11	28.2%	1	7.1%
	Schizophrenia-other	13	24.5%	31	21.2%	9	23.1%	4	28.6%

positive subscale mean was 18.1 which gives a T-score of 47, and translates to the 38th percentile for schizophrenics (Kay, Opler, & Lindenmeyer, 1992). The negative subscale mean was 14.0, T-score 38, corresponding to the 12th percentile (Kay et al., 1992). The mean composite score (the mean of the positive minus the negative scores) was 4.1 (T-score of 58, 80th percentile) (Kay et al., 1992). The mean general psychopathology score of 39.2 gives a T-score of 49 which lies at the 46th percentile (Kay et al., 1992).

#### *Dissociative Disorders Interviews*

Of the ten patients who participated in the PANSS interviews, six consented to continue with both the DDIS and SCID-D interviews.

#### **DDIS**

Non-dissociative findings: Of the six patients who completed the DDIS interviews: none had somatization disorder, two were positive for substance abuse, three met the criteria for a major depressive episode, one had a history of childhood physical abuse, none had a history of childhood sexual abuse, and three met DDIS criteria for borderline personality disorder.

#### *Dissociative Findings*

Four of the six patients (66%) met DDIS criteria for dissociative amnesia. None met the diagnostic criteria for dissociative fugue, depersonalization, dissociative identity disorder or dissociative disorder not otherwise specified.

*SCID*

The SCID-D interviews proved to be critical in determining the presence of dissociative disorders. From the DDIS interviews, four subjects met criteria for dissociative amnesia. However, this criterion is restricted to the subject responding positively to the question: "Have you ever experienced sudden inability to recall important personal information or events that are too extensive to be explained by ordinary forgetfulness?" A positive response must also not occur due to a known physical disorder (e.g., blackouts during alcohol intoxication, or stroke). The difficulty with the DDIS is that this question is both subjective and difficult to interpret as being a sign of dissociative amnesia without further follow-up questions which are not possible within the rigid structure of the DDIS. This is where a second dissociative interview proved to be important.

With the SCID-D, two of the four patients who described during the DDIS interview as having extensive memory loss proved to have difficulties in concentration which were not due to dissociative amnesia. One patient described: "When I talk I sometimes forget what I want to say." The second patient described forgetfulness which was not extensive. Both of these patients scored the lowest possible value for the amnesia subscale of the SCID-D1 (absent) out of 4. However, two of the four subjects had extensive memory loss which extended for hours or days and occurred frequently, leading to a score of 3 (moderate) and 4 (severe) on the SCID-D subscale of amnesia. Thus, two out of the six patients (33%) met both DDIS and SCID-D criteria for a diagnosis of dissociative amnesia. Three of the six patients who participated in the SCID-D interviews were given a score of five out of twenty, which corresponds to all five of the symptom areas being normal. The final participant received a moderate score (three out of five) for both depersonalization and for derealization; however, there was no evidence of a diagnosable dissociative disorder.

**DISCUSSION**

This study set out to accomplish two goals. The first was to determine the prevalence of dissociative symptoms and disorders in a population of schizophrenic outpatients. The second objective was to correlate dissociative symptoms and positive/negative schizophrenic symptoms. However, one limitation to this study was that the high number of patients who refused to be interviewed after the PANSS resulted in a small sample for DDIS and SCID-D interviews (n=6). This presents difficulties in determining precisely who amongst the high DES scorers had diagnosable dissociative disorders. However, the significant number of those interviewed with the DDIS and SCID-D who had a dissociative disorder (33%), supports the position that schizophrenia and dissociative disorders may coexist.

The presence of dissociative psychopathology within this

outpatient schizophrenic population is estimated to be 26%, based on a DES score of 25 or higher. Evidence for the generalizability of this figure comes from the finding that the mean DES score of 18.5 (n=53) in this study matches very closely to that given by Carlson and Putnam (1993) in a different schizophrenic population which demonstrated a mean score of 17.7 (n=61). Although this value of 26% does not indicate the percentage of schizophrenics with diagnosed dissociative disorders, the significant proportion of patients who suffer from these symptoms is cause to evaluate what is being done to help these patients with these symptoms. Of the 14 (26%) of patients who reported having dissociative symptoms, only six consented to further testing with the DDIS and SCID-D diagnostic interviews. This low compliance is recognized as a limitation of this study. However, this was a daunting process for this group, of which the largest proportion were paranoid schizophrenics. None the less, of the six who completed all four tests, two (33%) met DDIS and SCID-D criteria for dissociative amnesia. This value extrapolates to approximately 9% of the schizophrenic outpatients having a dissociative disorder as a comorbid disorder.

An unexpected finding of this study was the relatively low prevalence of childhood sexual abuse in this population. Only one of the six (17%) patients two females and four males who completed all four of the psychometric tests had a history of childhood abuse. This male patient was physically abused but not sexually abused. In psychiatric outpatients, the prevalence of sexual abuse has been estimated from 50% to 65% (Palmer, Chaloner, & Appenheimer, 1992; Waldinger, Silvett, Frank, & Miller, 1994) for females and 25% for males (Smith, Hutchings, & Dutton 1993). However, most of these patients were not diagnosed with schizophrenia. One study that included 46% of women patients with schizophrenia reported 45% of the sample had been sexually abused and that these women had higher levels of psychotic symptoms (Mvzenmaier, Meyer, Struening, & Ferber, 1993). Our sample of interviewed outpatients with schizophrenia reported a lower prevalence than that of other studies. We can only speculate that this may be due to the relatively low number of females in this sample and/or that this may be a higher functioning group. Our finding of no cases of DID follows from this observation as almost all patients with DID have histories of childhood abuse (Ross et al., 1990).

Results from the analysis of the I)ES subscales demonstrate that one of the subscales (absorption and imaginative involvement) is significantly higher than either of the two other subscales. This difference is maintained amongst all of the groups: the study group as a whole, the low scoring group (DES mean <25), and the high scoring group (DES mean 25 or greater). This finding is highly suggestive that the nature of the dissociative symptoms experienced by patients with schizophrenia is one of increased absorption in their surroundings and a greater tendency to be involved

with their imaginative life. Without the scores from this subscale, the DES scores for this schizophrenic population are drastically lower. For the entire group, the subscale score for depersonalization/derealization is 14.3, and for amnesic dissociation it is 12.6. These are both clearly lower than the mean subscale score of 24.7 for absorption and imaginative involvement. This finding suggests that there are questions on the DES, specifically those related to absorption and imaginative involvement, which maybe poorly suited to discriminate between schizophrenia and dissociative disorders. This might have attributed to the difficulties encountered in the study by Horen et al. (1995) in assessing the schizophrenic population for dissociative disorders. One study by Ross et al. (1988) recognized that due to the significant overlap between schizophrenic and dissociative symptoms on the DES, a short form of the DES might be more discriminative when working with schizophrenic populations (Ross, Norton, & Anderson, 1988). This study indicates that perhaps elimination or modification of the DES subscale involving absorptive and imaginative involvement might facilitate accurate recognition of specific dissociative pathology when working with schizophrenic populations.

The results from the PANSS testing of the high scorers from the DES indicate that these patients present with a predominance of positive symptoms. The composite score of 4.0 places these patients with a T- score of 58 and a percentile of 79, and eight of the eleven patients had a positive composite score. This finding corresponds with that of a recent study (Ellason & Ross, 1995). In that study, large numbers of schizophrenic (n=240) and dissociative identity patients (n=108) were compared using the PANSS interview. The results showed that the dissociative identity patients received a composite score of 7.2 versus a composite score of -1.9 for the schizophrenic population. Thus, patients with dissociative identity had a predominance of positive symptoms whereas the opposite was true for patients with schizophrenia (Ellason & Ross, 1995). This finding by Ellason, Ross, Mayran, and Sainor (1994) supports those authors' previous hypothesis that there might exist two pathways to positive symptoms: one being through the endogenous neurochemical pathway of schizophrenia, the other being through trauma (Ellason & Ross, 1995). Furthermore, in our study, the two patients who had diagnosable dissociative disorders on the DDIS and the SCID-D were the two highest scorers on the composite index of the PANSS with composite scores of 12 and 15. These values are much higher than either the composite average of 4.5 (for high DES scorers) found in this study or the schizophrenic average of -1.9 from the data obtained by Kay et al. (1992), (Ellason & Ross, 1995). These values, coupled with the findings of Ellason et al. (1995), indicate that patients with schizophrenia who endorse a higher number of positive symptoms relative to their negative symptoms should have dissociative symptoms or disorders carefully assessed.

One of the leading researchers in the area of dissociative disorders, Colin Ross, has hypothesized: "There may be a dissociative subtype of schizophrenia" (Ross, 1989). His premise is that the Schneiderian symptoms occurring in schizophrenia are caused by dissociation. Although it may be stretching the point to suggest that dissociative experiences are the sole, or even the primary etiologic agent for Schneiderian symptoms, there remains the possibility that for some patients with schizophrenia, positive symptoms might be exacerbated by dissociation.

In conclusion, this study has shown that a significant percentage of patients diagnosed with schizophrenia may have dissociative psychopathology (26%), and these patients tend to present with a high number of positive symptoms. Further conclusions from this investigation are: First, that the DES may need to be modified to better discriminate between dissociative disorders and schizophrenia and that caution should be used in interpreting high DES scores in this population as indicative of dissociative disorders. Secondly, that schizophrenic patients who present with a predominance of positive symptoms should have a possible comorbid dissociative disorder considered. To further understand the role of dissociation within schizophrenia, it would be beneficial to study the effect of treatment of dissociative symptom disorders in schizophrenics. If such treatment were to help reduce the magnitude of Schneiderian symptoms in these patients, their coping abilities could be greatly enhanced. ■

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