

RELATIONSHIP BETWEEN PSYCHOPATHOLOGY AND
PROBLEM BEHAVIOUR OF SCHIZOPHRENIC PATIENTS
AND BURDEN EXPERIENCED BY PRIMARY CAREGIVERS

BY

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ABSTRAK

HUBUNGAN DI ANTARA PSIKOPATOLOGI DAN TINGKAH LAKU BERMASALAH PESAKIT SKIZOFRENIA DAN BEBAN YANG DITANGGUNG OLEH PENJAGA UTAMA

Trend terkini ke arah psikiatri komuniti menyaksikan peralihan sebahagian besar beban penjagaan pesakit mental yang kronik dari institusi kepada keluarga. Tujuan kajian ini adalah untuk menilai hubungan di antara psikopatologi dan tingkah laku bermasalah empat puluh lima pesakit skizofrenia dan beban yang ditanggung oleh penjaga mereka. Psikopatologi dan tingkah laku bermasalah pesakit masing-masing dinilai berpandukan Skala Sindrom Positif dan Negatif (PANSS) dan Jadual Tingkah Laku Sosial (SBS). Jumlah beban penjaga dinilai berpandukan Jadual Temuduga Beban Ke atas Keluarga (BFS). Kebanyakan pesakit menganggur (71%), bujang (64%), lelaki (68%) dan menghidap penyakit skizofrenia kronik (82%). Kebanyakan penjaga sudah berumahtangga (76%), wanita (62%), ibubapa (73%) dari golongan status sosioekonomi bawahan (36% berpendapatan bulanan seisi rumah kurang daripada RM 500). Prevalen beban

adalah besar dengan empat puluh peratus penjaga utama melaporkan beban subjektif yang teruk. Beban objektif teruk paling umum adalah perbelanjaan rawatan pesakit yang melibatkan satu pertiga daripada penjaga. Psikopatologi pesakit skizofrenia (terutamanya delusi, permusuhan dan tingkah laku halusinasi) dan tingkah laku bermasalah (terutamanya permusuhan, terlalu aktif dan kegelisahan, dan tingkah laku merosak) mempunyai hubungan yang signifikan dengan jumlah beban yang ditanggung oleh penjaga utama. Grandiositi dan pemikiran stereotaip adalah simptom paling kurang membebankan sementara serangan panik dan fobia merupakan tingkah laku paling kurang membebankan penjaga.

ABSTRACT

RELATIONSHIP BETWEEN PSYCHOPATHOLOGY AND PROBLEM BEHAVIOUR OF SCHIZOPHRENIC PATIENTS AND BURDEN EXPERIENCED BY PRIMARY CAREGIVERS

The recent trend towards community psychiatry appears to have shifted much of the burden of care of the chronically mentally ill from the institutions to the family. The aim of this study is to assess the relationship between psychopathology and problem behaviour of the forty five schizophrenic patients and burden imposed on their primary caregivers. Patients' psychopathology and problem behaviour were assessed using Positive and Negative Syndrome Scale (PANSS) and Social Behaviour Schedule (SBS) respectively. Caregivers' amount of burden was assessed using Burden on Family Interview Schedule (BFS). Majority of the patients were unemployed (71%), single (64%), male (68%) suffering from chronic schizophrenia (82%). The caregivers were mostly married (76%), female (62%), parents (73%) and from lower socioeconomic status (36% had monthly household income less than MYR 500). The prevalence of burden was

extensive with forty percent reported severe subjective burden. The commonest severe objective burden was treatment expenses affecting one third of primary caregivers. Schizophrenic patients' psychopathology (particularly delusion, hostility and hallucinatory behaviour) and problem behaviour (particularly hostility, overactivity and restlessness, and destructive behaviour) were found to be significantly correlated with the amount of burden experienced by primary caregivers. Grandiosity and stereotyped thinking were the least burdensome symptom while panic attack and phobias were the least burdensome behaviour imposed on the caregivers.

CHAPTER ONE

INTRODUCTION

1.1 Historical background

In preinstitutional times a mentally ill relative may very well have been locked in a room in the attic as caregiving duties were primarily the responsibility of the family, but a statute enacted in 1694 specifically made all insane persons without families the legal responsibility of the community. The 19th century rise of the asylums, which were often set at a distance from the centers of population, may have led families and communities to lose skills necessary to the care of mentally ill persons. Contemporary deinstitutionalization policy tries to unite patients with their families as a means of providing community care. This policy catapults the patients' relatives into a caregiving role for which they are untrained and unprepared and from which they have been systematically excluded in the past. (Lefley, 1996)

Deinstitutionalization is a worldwide trend. Following the trend of the developed countries, Malaysian government started decentralizing psychiatric services in the early 1960s. By that time the psychiatric wards of the general hospitals were fully functioning. Previously they were used for temporary housing of the disturbed patients before transferring them to a nearby psychiatric (mental) hospital. Before 1952, the Central Mental Hospital in Tanjong Rambutan, Perak was the only psychiatric facility available for the whole country. The British built the hospital in 1911. A second mental hospital was subsequently built at Tampoi, Johore in 1935 although the building was not used as a psychiatric hospital until the Japanese army returned it to the health authorities in 1952 (Salleh, 1994).

The decentralization process witnessed a large number of patients with chronic mental disorders returning to the family. The number of long-stay patients in two central mental hospitals in Peninsular (West) Malaysia was slowly declining and the psychiatric units of general hospitals became overcrowded. For instance, there were approximately 7500 psychiatric beds available for the population of about 10 million people in 1967 (Tan & Wagner, 1971). In 1988, the number of beds in the psychiatric hospitals was reduced

to 5852, although the population of Malaysia has increased to 18 million (Tan & Lipton, 1988).

Their families look after the vast majority of the mentally ill patients who return home because no other centre is available for them. At present there is no private psychiatric hospital. In Malaysia. Although there are a few private day care centres available, they are not a viable alternative to cater for the increasing number of chronic schizophrenics in the community. Decentralization shifted much of the burden of care of chronic schizophrenia from the mental institution to the family. Acceptance of the mentally ill is believed to be good on the whole and is considered to be a great source of support for the overstretched psychiatric services in Malaysia.

The pitfalls of the deinstitutionalization movement emphasized by Bachrach (1979, 1990) and Barnes and Toews (1983) have placed families of the psychiatrically disabled people under tremendous pressure to take charge of the care and rehabilitation of their ill relative. It has been estimated that these people run two to three times the risk of experiencing psychological difficulties compared to the general population (Arey & Warheit, 1980; Gibbons et al. 1984; Oldridge & Hughes, 1992; Scottish Schizophrenia Research Group, 1987, 1992).

The policy of deinstitutionalising psychiatric patients has highlighted the role of the family as main providers of care. Because family members exert a crucial influence on course of illness in the major mental disorders, there is considerable interest in identifying parameters of family functioning that mediate this influence. Two family factors that have been examined in detail since the early stages of community-oriented care are the quality of the social interaction between carer and patient, as measured by the level of expressed emotion (EE), and the burden imposed by the caring role. (Scazufca & Kuipers, 1996)

1.2 Concept and definition of burden

Burden is a loose construct that has been defined in various ways, but usually includes measures of subjective and objective distress as well as measures of the way in which a caregivers life-style has been altered by financial difficulties, curtailed social activities, loss of vacations etc (Heru, 2000). Bloch *et al.* (1995) also identified in the caregivers, feelings of loss and grief, guilt over the transmission of the illness, a sense of hopelessness, and a feeling of not doing enough. Significantly, 93% of the caregivers described an intense need to share experiences with others. Other burdensome

themes related to confusion about whether the patient's behavior was related to illness or personality.

A critical distinction between 'objective' and 'subjective' burden was introduced during the early period. "Objective burden had effects on the household and subjective burden was the informant's own perception of whether the household had suffered some degree of burden" (Hoenig & Hamilton, 1967).

Schene (1990) refines the concept of 'objective burden' by specifying it concretely to cover tasks that the caregiver and his/her family carries out (e.g., helping, supervising, controlling, and paying) and activities they are themselves unable to perform (e.g., work, hobbies, clubs) because of their caregiving task. In contrast, 'subjective burden' is determined by how a family member experiences, or responds to, potentially distressing types of behaviour or situations (Schene, 1990).

Measuring objective burden is relatively straightforward, Platt's (1983) Social Behavioral Assessment Schedule (SBAS) is commonly used. Robinson's (1983) caregiver strain instrument offers a short 14-item diverse measure of objective burden or strain.

Platt and colleagues (1980) were one of the first research teams to introduce a discrete multi-dimensionality to the concept of family burden, with the Social Behaviour Assessment Schedule (SBAS; Platt et al. 1980), which consists of three dimensions: (a) disturbed behaviour; (b) social performance; and (c) adverse effects on others. Biegel & Milligan (1992) acknowledge efforts to dimensionalise family burden by observing that the stresses of caring within the family are multiple and pervasive for all families and diagnoses, which suggests the presence of distinct multiple dimensions.

Subjective strain scales generally include personal attitude, physical and psychological health items, family relationship items and social support items. Burden or strain scales offer combined objective and subjective items, but using a single scale does not allow the relationship between objective and subjective burden to be examined, although many measures allow separate analysis of items that correspond to objective and subjective burden.

In brief, objective burden is observable concrete costs to the family resulting from mental illness, e.g., disruption to everyday life in the household and financial loss, whereas subjective burden is the individual's personal appraisals of the situation and the extent to which people

perceive they are carrying a burden. The association between objective and subjective burden is complex. (Heru, 2000)

Maurin & Boyd (1990) have presented a critical review of the association between objective and subjective burden and the mediating factors between them, suggesting that the patient family relationship acts as one of the mediating factors between objective and subjective burden. Schene et al. (1996) emphasizes the need for standardization both in the definition of burden and in the measurement of burden. Reviewing all the caregiver instruments and abandoning the label "burden," Szmukler et al. (1996) developed a 66-item Experience of Caregiving Inventory (ECI) to reflect their adoption of a stress appraisal coping model of caregiving and to include a measure of reward. Out of 10, there were 2 positive subscales asking about positive personal experiences and good aspects of the relationship. However, these subscales did not have predictive value.

Schofield et al. (1997) likewise have developed a comprehensive instrument to assess the experience of caregiving, both positive and negative. Their items were drawn from the instruments available and exploratory interviews, and their subscales demonstrated a satisfactory reliability. This instrument offers two advantages over

prior instruments. It offers more opportunity for expression of reward/satisfaction, and is relevant to a broad range of ages, levels, and types of disabilities. The instrument can be used as a whole or in part.

In a study of 125 family caregivers of patients who had been discharged from the three state psychiatric hospitals in Cleveland, Ohio. Thompson & Doll (1982) found that while there was a significant relationship between objective and subjective burden, in most families a disparity suggested that some families did show resilience, in that high objective burden did not necessarily result in, or was not necessarily associated with high subjective burden. This resilience may have been experienced as reduced burden or as reward in caregiving. Subjective burden has been found to be a more powerful predictor of distress than the patients' symptomatology or the objective burden of the caregiver (Noh & Avisan 1988).

Succinctly, in psychiatric research, the topic of 'family burden' continues to challenge empirical investigation, due to the various conceptual, measurements, and methodological difficulties associated with the concept (Falloon et al. 1984).

1.3 Magnitude and prevalence of burden

Severe mental illness, like schizophrenia, has far-reaching consequences for both patients and their relatives (Hatfield & Lefley, 1987; Tessler et al. 1987). For patients themselves, self-care may be impeded, the capacity for social relationships diminished, and employment opportunities reduced. Mental illness creates obstacles to independent living and may diminish life satisfaction (Schene, 1990).

The problem of the mentally ill patients in the family has long been recognized (Yarrow et al. 1955a,b). Patients' relatives experience feelings of loss and grief (Miller et al. 1990). They are confronted with uncertainty and emotions of shame, guilt, and anger. Like the patient, they feel stigmatized and socially isolated (Wahl & Harman, 1989). Their lives may be disrupted by providing more care than would normally be appropriate for someone of the patient's age. In those cases where reciprocity between family members is out of balance, normal care changes into caregiving. Addition of the caregiving role to already existing family roles may become stressful, both psychologically and economically (Clark, 1994; Schene et al. 1996).

Expressed emotion (EE) and burden of care are related and both measure aspects of the relationship between relatives and patients. Findings that the EE status of a relative may change over time (Hogarty *et al.* 1986; TARRIER *et al.* 1988) support the idea that EE represent complex interactions between patient and caregiver, or the circumstances of the relationship (Kuipers & Bebbington, 1988). Jackson *et al.* (1990) found that high criticism in relatives was associated with higher level of burden. Smith *et al.* (1993) showed that high-EE relatives reported higher levels of disturbed behaviour in patients, more subjective burden, and perceived themselves as coping less effectively than low-EE relatives. High-EE relatives also report that patients function less well than low-EE relatives (Otsuka *et al.* 1994). Scazufca & Kuipers (1996) study shows similar findings that high-EE relatives had considerably higher burden of care and perceived more deficits in patients' social functioning than low-EE relatives. The employment status of relative was the only demographic characteristic of patients and relatives, which was statistically associated with, and found to be an independent predictor of, EE level.

The available research suggests that EE and family burden are best conceptualised as interactive, rather than unidirectional, process. Disruptive and symptomatic patient

behaviours increase the chance that relatives will respond with stressful (high-EE) communications, which in turn may worsen the patient's symptoms, leading to vicious circle (Mueser & Glynn, 1990).

A major finding of the Global Burden of Disease project was the importance of mental disorders as a cause of disease burden, accounting for a quarter of the world's disability, and 9% of the total burden, burden being the sum of premature death and years lived with disability (Murray & Lopez, 1996). Five of the 10 leading causes of disability worldwide are mental disorders: major depression, alcohol use, bipolar affective disorder, schizophrenia and obsessive-compulsive disorder.

These data on the burden of mental disorders do not mean that an epidemic of mental illness is sweeping the world. It is just that, as the burden of infectious diseases has decreased markedly, and the burden of many chronic diseases is being reduced through improved prevention and treatment, the mental disorders are now exposed as a significant burden. This epidemiological transition is also evident in the developing world, where changing population structure and changing patterns of disease highlight the importance of non-communicable, chronic diseases (Bulutao, 1993).

The previous studies on family burden found that the prevalence of schizophrenic relatives who had a high possibility of having mental disorders were high; for examples Gibbons *et al.* (1984) 32%, Scottish Schizophrenia Research Group (1987) 77% and Oldridge & Hughes (1992) 36%.

Using Social Behaviour Schedule and the Burden On Family Interview Schedule to assess patients' behavioural problems and the burden of relatives, Salleh (1994) found the prevalence of neurotic illnesses among primary carers of schizophrenia in Kelantan to be 26% with nearly half of them had neurotic depression. Neurotic carers compared with non-neurotic carers had significantly more subjective burden and distress related to the product of active psychosis. The carers were generally able to tolerate the negative symptoms of schizophrenia. The number of problem behaviours and previous admissions were significantly correlated with the severity of burden.

In another local study, Nor Hayati & Maniam (1995) conducted a descriptive study on 80 chronic schizophrenic families attending the Kuala Lumpur Hospital (KLH) and Universiti Kebangsaan Malaysia (UKM) outpatient psychiatric clinics. Using an interview schedule developed by Pai & Kapur (1981), they found that 95% of the caregivers had experienced some kind of burden. The period covered was the

two years before the interview. The greatest burden experienced by 90% of the families was concern and worry about the patients' future and recovery. Eighty percent had their routine disrupted, 71% had strained relationships and 67% faced financial burden. In 55% family leisure was disrupted and in 37% the emotional health of other family members was affected. They concluded that the burden of caring for these patients was extensive and suggested that serious attention should be given to the needs of the caregivers.

Despite the universal recognition of the distress experienced by the caregivers, the specific determinants of family burden are not well understood. It is also important to look at the incidence of depression in the caregivers as well as other psychiatric and physical sequels associated with caregiver stress. In a community study of 103 relatives of chronic mentally ill patients, higher levels of burden were associated with increased depressive symptomatology for the caregivers (Song et al. 1997).

1.4 Determinants of burden

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 et al. 1991). 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, include: demographic and socioeconomic characteristics of caregivers, caregiver health status, and caregiver social networks and social support systems (Biegel et al. 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.

1.4.1 Stressors.

Client Behavioral Problems. Studies examining the relationship between patient impairment and depression have found that caregivers experienced more depressive symptoms when their family members presented more behavioral problems (Haley et al. 1987; 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.

The severity of patients' symptoms is the only variable that has been shown to have a strong association with burden, although this relationship is not simple (Schultz *et al.* 1995). However, there is no clear-cut consensus from available studies regarding the symptoms that the relatives find most stressful. Gibbons *et al.* (1984) found that the most distressing and difficult behaviour to cope with was the product of active psychosis such as violence, aggression and odd behaviour. Other studies found that negative symptoms (Gopinath & Chaturvedi, 1992) and less clear-cut symptoms such as frustrating, depressive and hypochondriacal preoccupation (Grad & Sainsbury, 1963) were difficult to cope with. The severity of burden in schizophrenic relatives had been shown to be influenced by various sociodemographic variables. It was found that the distress was more marked in young and educated relatives; and more often perceived if patients were older (Gopinath & Chaturvedi, 1992). The difference in the result of the study is partly due to sociocultural factors.

1.4.2 Contextual Variables

Gender. Findings generally indicated that female caregivers report more depressive symptoms than men (Gallagher et al. 1989; Schulz & Williamson, 1991). 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 that is consistent with some previous research (Biegel et al. 1994).

Living Environment. 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.

Health Status. Several studies have examined the effect of caregiver health on depression and showed that caregiver health was an important predictor of caregiver depressive symptomatology. Morrissey et al. (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.

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 was 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.

1.5 Study objectives

The objective of this study is to assess the relationship of burden on caregivers as measured by Burden on Family Interview Schedule (BFS; Pai & Kapur, 1981) (the dependant variable) with the following independent variables:

- (i) Schizophrenic patients' psychopathology as measured by the Positive and Negative Syndrome Scale (PANSS; Kay *et al.*, 1987).
- (ii) Schizophrenic patients' social and behaviour problem (SBP) as measured by the Social and Behaviour Schedule (SBS; Wykes & Sturt, 1986).
- (iii) Sociodemographic variables of patients and caregivers.

The hypotheses of this study are:

- (i) Both PANSS positive and negative subscales have positive correlation with total objective burden.
- (ii) The correlation of PANSS positive subscale is stronger than the negative subscale.
- (iii) Total SBS score has positive correlation with total objective burden.
- (iv) Sociodemographic variables of patients and caregivers are not statistically significant with amount of burden.
- (v) The subjective burden has similar correlation with the other independent variables.

The null hypothesis of this study is there are no significant correlations between total objective or subjective burden and positive subscale, negative subscale, total SBS or sociodemographic variables.

CHAPTER TWO

METHODOLOGY

2.1 Setting

This study was conducted at the outpatient clinic, Department of Psychiatry of University Science of Malaysia, which is located in east coast of peninsular Malaysia. Although it is a teaching hospital, its functions are similar to the general hospital that is located 6 km away. Malays constitute more than 90% of the population in the hospital catchment area, while Chinese and Indians are minority groups. Most of the chronically ill patients are treated in the general hospital.

2.2 Sample

2.2.1 Patients and relatives criteria

Patients had to satisfy the following criteria:

- (i) Aged 18 to 65 years old. Patients over the age of 65 years were excluded to avoid possible effects of old age on the rating of certain behaviours.
- (ii) Absence of hospitalization during the last month.
- (iii) Living with a relative for a minimum period of 6 months before the interview.
- (iv) A diagnosis of schizophrenia according to ICD-9 or ICD-10.
- (v) Living within the state of Kelantan.
- (vi) Informed consent to be interviewed and to have relative interviewed.
- (vii) Absence of clinically significant organic brain syndrome, or if there were a primary problem of drug or alcohol abuse.

Relatives had to satisfy these criteria:

- (i) Aged at least 18 years old.
- (ii) Living within the state of Kelantan.
- (iii) Primary caregiver of patient which is defined as someone living in the same household, feel most

responsible for patient, having most face-to-face contact and primary caretaking role.

(iv) Informed consent to be interviewed.

(v) Absence of disabling physical or psychiatric disorder or drug abuse.

2.2.2 Sample size

Sample size was calculated based on the correlation of distressful behaviours and family burden by Mueser (1996) that reached a Pearson correlation coefficient value of 0.64. The power of study was taken at 95% with α -value of 0.05. Using PS for Windows, version 1.0.13, a program for performing power and sample size calculations, the required sample size was 32.

2.3 Instruments

The study had a cross-sectional design. A standard form was used to collect information on sociodemographic characteristics of patients (see Appendix A) and relatives (see Appendix B). Instrument used with the patient was Positive and Negative Syndrome Scale (PANSS; Kay *et al.* 1989) whereas instruments used with the caregiver were Social Behaviour Schedule (SBS; Wykes & Sturt, 1986) and

Burden on Family Interview Schedule (BFS, Pai & Kapur, 1981).

2.3.1 Positive and Negative Syndrome Scale (PANNS).

Presence of patient's psychiatric symptoms (psychopathology) was assessed using PANSS. The scale was developed and standardized for typological and dimensional assessment of schizophrenic phenomena (Kay et al. 1987). Using a formal semi-structured clinical interview and other informational sources this 30-item, seven-point rating scale distinguishes three symptomatic dimension; 7 items constitute a positive subscale, 7 items constitute a negative subscale and 16 items constitute a general psychopathology subscale. This scale was reliable with the internal reliability coefficients of 0.73-0.83, test retest reliability of 0.89, 0.82, and 0.77 respectively for each subscore and interrater reliabilities in the range of 0.83 to 0.87. The predictive validity was high and consistent with other studies showing high correlation with the Andreason methods for evaluating positive symptoms ($r=0.77$) and negative symptoms ($r=0.77$) (Kay et al. 1989). The period covered was the month before the interview.

2.3.2 Social Behaviour Schedule (SBS).

Patient's social and behaviour problem was assessed using the SBS (Wykes & Sturt, 1986). It is a rating scale of specific problem behaviour-based on the work by Wing (1961) and Wing & Brown (1970) with chronically institutionalized populations. It has been further developed by Wykes *et al.* (1982) from work with a psychiatric community care population. The schedule covers 21 behaviour areas (see Appendix C) that have been shown in previous research to describe the major difficulties exhibited by patients with long-term impairments that usually result in a dependence on or admission to either day or residential psychiatric services. Most of the items are rated on a scale of 0 (no problem or acceptable behaviour) to 4 (serious problem), from an informant's description of the patient or client's behaviour over the past month. The maximum score of the 21-item scale is 78. The choice of a five-point scale was mainly for historical reasons; during the development of the schedule, this appeared to provide a reasonable description of the range of behaviour problems. The choice of an informant rather than direct observation and the choice of time scale are necessary because some of the difficulties occur infrequently. It is relatively easy to administer, as only one informant is required. The schedule interrater, inter-informant, test-retest and inter-setting