Assessing the quality of care for patients with first-episode psychosis

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ABSTRACT

Introduction: This study evaluated the quality of care in an early psychosis intervention programme (EPIP), as compared to standard treatment received by patients prior to the inception of the programme.

Methods: The medical records of 50 patients with first-episode psychosis (FEP) who received psychiatric treatment in the calendar year of 2000, i.e. prior to the implementation of EPIP, and 87 FEP patients who were accepted in the EPIP, were reviewed for a period of one year. These patients were aged between 18 and 40 years. Each medical record was reviewed for a list of process indicators, which were identified from the published literature and other treatment guidelines, and covered different domains.

Results: None of the pre-EPIP patients met all the 13 process indicators, whereas 48 percent of EPIP patients met all the indicators (p-value is less than 0.001). Using the default rate as a proxy of outcome, we found that 19 percent of EPIP patients had defaulted at the end of one year, whereas the default rate was 52 percent for the pre-EPIP patients (p-value is less than 0.001).

Conclusion: It is possible to improve the quality of care in patients with FEP through the use of treatment guidelines, regular monitoring of symptoms and side effects, and periodic audits.

Keywords: process indicators, psychosis, quality of care, treatment guidelines

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INTRODUCTION

Psychosis is a serious and potentially chronic mental disorder with a profound impact on patients and their families and society. Worldwide, it is ranked third among the most disabling conditions – following quadriplegia and dementia, higher than blindness and paraplegia – and imposes an enormous burden in terms of economic costs and human suffering[1]. A growing body of evidence is showing that early treatment could result in a significant reduction in morbidity (i.e. reduction in disabilities, hospitalisation, disruption in family, suicides and costs), and better quality of life for patients and their families[2,3]. However, many studies have shown that those with psychosis usually have considerable delay in receiving treatment. We found that for a local group of patients with first-episode psychosis (FEP) in Singapore, the duration of untreated psychosis (DUP) ranged from 0.1 to 336 months, with a mean of 32.6 months and a median of 12 months[4].

This alarmingly long DUP and its possible consequences were the impetus for establishing the early psychosis intervention programme (EPIP) which was initiated in April 2001 under the auspices of the Singapore Ministry of Health. EPIP is a comprehensive, integrated, coordinated, and patient-centred treatment programme that focuses on the early detection of psychosis, and the subsequent provision of evidence-based treatment by a multidisciplinary team of psychiatrists, psychologists, case managers, social workers, nurses and occupational therapists. The overall goal of the programme is to optimise the outcomes of patients with FEP and reduce the burden of care for their families.

There are various practice guidelines and expert consensus recommendations for care for people with psychosis[5-12]. These are based on robust evidence for the efficacy of medication management, clinical case management and family management[13] in improving outcomes. Assessment of quality of care should therefore not only be based on treatment outcome measures, but also on whether there is adherence to these guidelines, i.e. process indicators. In this study, we examine the number of process

Table I. Proportion of patients meeting process indicators.

Process indicator	a/b *	Pre-EPIP (n=50)	a/b *	EPIP (n=87)	p-value	Odds-ratio (95% CI)
Indicators for assessment						
Patients assessed for substance abuse disorders (history or urine toxicology done)	45/50	90.0%	86/87	98.9%	0.024	9.52 (1.08-83.33)
Assessment of general medical status at initial evaluation (history and physical examination)	49/50	98.0%	82/87	94.3%	0.415	0.33 (0.04-2.95)
Family member(s) contacted at initial evaluation	41/50	82.0%	81/85	95.3%	0.016	4.44 (1.29-15.38)
Indicators for medical treatment						
Patients hospitalised for an acute episode of psychosis and prescribed an antipsychotic medication on discharge	42/42	100.0%	59/60	98.3%	1.0	1.71 (1.45-2.02)
Patients treated with antipsychotic medication for at least three months and received a medication adjustment following persistent psychotic symptoms or antipsychotic-related side effects	34/50	68.0%	70/82	85.4%	0.027	2.75 (1.17-6.44)
Patients discontinued from antipsychotic medications and have a documented plan for recognising and responding to signs of relapse	30/50	60.0%	58/84	69.0%	0.348	1.49 (0.72-3.09)
Patients who had at least four medication or psychotherapy visits with a psychiatrist within a year from first visit	32/50	64.0%	74/85	87.1%	0.002	3.78 (1.61-8.92)
Patients treated with antipsychotic medication and evaluated for medication side effect within three months of prescription	26/49	53.1%	75/86	87.2%	<0.001	6.03 (2.59-14.05)
Patients who had either one inpatient admission or two outpatient visits for psychosis within a 12-month period and received education about their prescribed medications and side effects	14/50	28.0%	75/86	87.2%	<0.001	17.53 (7.24-42.44)
Patients prescribed oral antipsychotic drugs, reported medication non-compliance and received depot maintenance therapy	27/49	55.1%	59/82	72.0%	0.059	2.1 (1.0-4.39)
Indicators for continuity of care						
Patients lost to follow-up or terminated treatment within a 12-month period	26/50	52.0%	16/84	19.0%	<0.001	4.60 (2.12-10.02)
Outpatient visit within ten days of hospital discharge for psychiatric disorder	12/41	29.3%	49/59	83.1%	<0.001	11.9 (4.55-31.25)
≥1 outpatient visit per month for six months after hospitalisation	15/41	36.6%	43/58	74.1%	<0.001	4.97 (2.09-11.81)

* a/b : total number of cases meeting criteria / actual number of cases assessed

indicators which have been met in a group of EPIP patients and a comparison group of patients with FEP under the usual psychiatric service before the inception of this programme.

METHODS

This study was conducted in the Institute of Mental Health, which is the only state mental institute in Singapore, and is the tertiary treatment centre for patients with severe mental illnesses. Since the inception of the EPIP, all patients with FEP with no medical cause for the psychosis and who fulfilled the intake criteria (age range from 18 to 40 years and no previous treatment for a psychotic disorder) have been accepted into the programme. As such, there was no parallel group of patients that we could compare with. Instead, we used a group of FEP patients who received psychiatric treatment at the Institute of

Table II. Socio-demographical data of the pre-EPIP and the EPIP patients.

	Pre-EPIP (n=50) n (%)	EPIP (n=87) n (%)
Age in years [mean (SD)]	30.9 (6.9)	28.7 (6.9)
Gender		
Male	35 (70.0%)	51 (58.6%)
Female	15 (30.0%)	36 (41.4%)
Ethnicity		
Chinese	32 (64.0%)	59 (72.8%)
Malay	11 (22.0%)	16 (19.8%)
Indian & others	7 (14.0%)	6 (7.4%)
Diagnosis*		
Brief psychotic disorder	0 (0.0%)	7 (8.0%)
Affective psychosis	0 (0.0%)	9 (10.3%)
Psychosis not otherwise specified	11 (22.0%)	5 (5.7%)
Schizophrenia	30 (60.0%)	39 (44.8%)
Schizophreniform disorder	9 (18.0%)	24 (27.6%)
Delusional disorder	0 (0.0%)	3 (3.4%)
Status at first presentation		
Inpatients	42 (84.0%)	61 (70.1%)
Outpatients	8 (16.0%)	26 (29.9%)

EPIP: early psychosis intervention programme

* p<0.001 (Fisher's exact test)

Mental Health in year 2000, i.e. prior to the inception of the programme, and who would also have had met the programme intake criteria.

The medical records of the two groups of patients were examined and relevant data were abstracted. A structured medical record abstraction form was developed and four medical officers were trained in the use of this form. Joint training sessions were conducted and consensus meetings were also subsequently held to resolve any disagreements. The diagnosis of the patients was made in accordance with DSM-IV criteria. Each medical record was reviewed – the period under review spanned one year – and benchmarked against a list of 13 process indicators. Two experienced psychiatrists identified these process indicators from the published literature and treatment guidelines[5-12,14] that covered different domains of care, including assessment (three process indicators), medication treatment (seven process indicators), and continuity of care (three process indicators). These indicators were identified based on interventions that on evidence were most efficacious for the management of psychosis. Each indicator was operationalised (Table I). The default rate (defined as those who did not turn up for their appointments or were lost to follow-up within a 12-month period) was also documented. The study was approved by the Ethics Review Board.

All analyses were performed using the Statistical Package for Social Sciences (SPSS) verson 13.0 (Chicago, IL, USA). Comparisons between the pre-EPIP and EPIP patients for meeting the process indicators were assessed using chi-square or Fisher's exact test with odds-ratio and 95% confidence intervals (CI) presented, where applicable. Two-tailed tests of significance were used and statistical significance was set at $p<0.05$.

RESULTS

The socio-demographical data of the EPIP patients and pre-EPIP patients are shown in Table II. There was a significant difference between the proportion of EPIP patients and pre-EPIP patients in meeting nine out of the 13 process indicators (Table I). None of the pre-EPIP patients met all the 13 process indicators. In contrast, 48.3% of the EPIP patients met all the indicators. The default rate was also significantly lower among the EPIP patients (19% versus 52% for the pre-EPIP group, $p<0.001$).

DISCUSSION

This study shows patients in EPIP met more of the process indicators in the course of this treatment than the pre-EPIP group especially in the domains of medical management and continuity of care. This could be due to the following reasons. Each of the patients had a case manager who functioned as therapist as well as a broker, and took an assertive approach in engaging the patients and their families. There was an emphasis on providing psychological education and training patients to assume responsibility for monitoring their own symptoms and side effects. Patients were regularly monitored for their symptoms and medication side effects by use of structured rating scales, and compliance with treatment guidelines was ensured with regular audits. The relatively better quality of care (as indicated by having met more of the process indicators) could possibly improve treatment outcomes. We could only use default as an approximate proxy of outcome; EPIP patients had a significantly lower default rate than the comparison group. However, it should be noted that default is but one indicator of outcome. Unfortunately, we could not examine other outcome indicators like symptoms reduction and functionality due to the lack of such data in the pre-EPIP group.

The use of this pre-EPIP group also meant that we cannot fully exclude a cohort effect. This study also has other limitations. The abstraction of data from

the medical records was not augmented by interviews with the patients. A previous study has found that the choice of data source can have an effect on the detection of poor quality care, and that the accuracy of medical records cannot be taken for granted[15]. It is possible that some of the interventions could have been carried out without any documentation although failure of documentation is a quality failure as well.

Nonetheless, our study, which is the first of its kind to our knowledge, shows that there were gaps in the quality of care in this particular institute. These gaps could be addressed with some relatively simple adjustments to the delivery system. Although the whole field of using process measures for assessment of the quality of care is still rather underdeveloped[14], any interventions for the treatment of those with mental illnesses must include measuring and improving the quality of care provided, and research must be an integral part to test the effect of specific quality improvement interventions on clinical outcome and costs[15]. Such knowledge is vital not only to inform clinicians on their treatment, but is also essential for policy makers as well.

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REFERENCES

1. World Health Organization. World Health Report 2001. Mental Health: New Understanding, New Hope. Available at: www.who.int/whr/2001/en/whr01_en. Accessed September 15, 2005.
2. McGlashan TH. Early detection and intervention in schizophrenia research. Schizophr Bull 1996; 22:327-45.
3. Larsen TK, Johannessen JO, Opjordsmoen S. First-episode schizophrenia with long duration of untreated psychosis. Pathways to care. Br J Psychiatry Suppl 1998; 172:44-52.
4. Chong SA, Mythily, Lum A, Chan YH, McGorry P. Determinants of duration of untreated psychosis and the pathway to care in Singapore. Int J Soc Psychiatry 2005; 51:55-62.
5. Bickman L, Salzer MS. Measuring quality in mental health services. Eval Rev 1997; 21:285-91.
6. Torrey EF, Erdman K, Wolfe SM, et al. Care of the Seriously Mentally Ill: a Rating of State Programs. Washington, DC: Public Citizen Health Research Group and the National Alliance for the Mentally Ill, 1990.
7. Kissling W. Compliance, quality assurance and standards for relapse prevention in schizophrenia. Acta Psychiatr Scand Suppl 1994; 382:16-24.
8. International Early Psychosis Association Writing Group. International clinical practice guidelines for early psychosis. Br J Psychiatry Suppl 2005; 48:S120-4.
9. Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team for the Treatment of Schizophrenia and Related Disorders. Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of schizophrenia and related disorders. Aust N Z J Psychiatry 2005; 39:1-30.
10. American Psychiatric Association Steering Committee. The expert consensus guideline series. Treatment of schizophrenia. J Clin Psychiatry 1996; 57 Suppl:3-58.
11. American Psychiatric Association. Practice guideline for the treatment of patients with schizophrenia. Am J Psychiatry 1997; 154:1-63. Comment in: Am J Psychiatry 1997; 154:1792-4.
12. Lehman AF, Steinwachs DM. Translating research into practice: the Schizophrenia Patient Outcomes Research Team (PORT) treatment recommendations. Schizophr Bull 1998; 24:1-10. Comment in: Schizophr Bull 2004; 30:613-5.
13. Lehman AF, Carpenter WT Jr, Goldman HH, Steinwachs DM. Treatment outcomes in schizophrenia: implications for practice, policy and research. Schizophr Bull 1995; 21:669-75.
14. Hermann RC, Finnerty M, Provost S, et al. Process measures for the assessment and improvement of quality of care for schizophrenia. Schizophr Bull 2002; 28:95-104.
15. Young AS, Sullivan G, Burnam A, Brook AH. Measuring the quality of outpatient treatment for schizophrenia. Arch Gen Psychiatry 1998; 55:611-7.