

A Clinical Study of 100 New Admissions to an Adolescent Psychiatric Inpatient Unit in Singapore

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ABSTRACT

Background: Psychiatric inpatient services for children and adolescents in Singapore began in 1982 when Woodbridge Hospital started the Child and Adolescent Inpatient Unit. To date, this is the only unit with specialised facilities and staff in the management of young patients. Admissions were mainly based on a need for custodial management of acute major behavioural disturbances. Patients were discharged for outpatient treatment once these behaviours subsided.

Methods: This is a retrospective clinical study of 100 consecutive new patients admitted from April 1993 to August 1994.

Results: Majority of admissions (92%) were adolescents above age 12, who were either attending secondary or vocational school. Most came from nuclear families. Forty-eight percent of referrals were intradepartmental. Ten percent were from general hospitals with 16% as self referrals. Psychoses accounted for the diagnosis in 43%, schizophrenia being the main type. Neurosis and adjustment disorders formed the other main diagnoses. All patients received individual and family treatment. Liaison with schools was required in a third of the cases. Sixty-one percent received pharmacological treatment. Ninety-one percent were discharged home after a stay of less than 3 months. Majority returned to school upon discharge from the hospital.

Conclusion: The main criteria for admission in this unit, located in an adult psychiatric hospital, is that of custody of young patients with disturbed and unmanageable behaviour. This provides additional stigma for the admissions of young patients with minor psychiatric problems and interferes with comprehensive care including admission required for some adolescents with psychiatric problems.

Keywords: child, adolescent, psychiatry, inpatient, Singapore, school, psychosis

INTRODUCTION

Inpatient psychiatric services for children and adolescents in Singapore only started in 1982. An 18-bedded Child Psychiatric Inpatient Unit was opened in January 1982 occupying a 2-storey

bungalow within the compounds of the old Woodbridge Hospital at Jalan Woodbridge. This unit was part of the Child Psychiatric Clinic (now called the Department of Child and Adolescent Psychiatry). In April 1993, the Unit was relocated to its present facilities in the new Woodbridge Hospital and renamed the Child and Adolescent Inpatient Unit. The current unit is a 24-bedded ward and consists of part-time professional staff with a Consultant Psychiatrist, a Senior Registrar, a Medical Officer, 2 Psychologists, a Medical Social Worker and an Occupational Therapist. A full time complement of nursing staff provides the daily ongoing care. This is the only child and adolescent inpatient psychiatric facility in Singapore.

The unit provides inpatient services for children and adolescents with severe emotional, behavioural and psychological problems. Patients with severe conduct disorder or substance abuse are not admitted. The age limit is 19 years. Admissions were mainly based on a need for custodial care of acute major behavioural disturbances. Patients were discharged once these behaviours subsided and managed as an outpatient. There is presently a lack of facilities which can cater to such crisis intervention in a non-psychiatric setting. This retrospective study is to answer some basic questions such as the patient and family characteristics, treatment methods used and outcome.

PATIENTS AND METHODS

The first 100 consecutive new cases admitted to the new CAIU from April 1993 to August 1994 were considered for the study. Nearly all the children were assessed by the authors personally. Demographic data (such as sex, age, nationality, ethnic group, postal district of residence, educational level at admission and type of accommodation), clinical data (such as source of referral, main symptom for admission, duration of symptoms before admission and diagnosis), developmental history (such as pregnancy complications, delayed milestones, nocturnal enuresis, associated medical history, psychiatric treatment in childhood, history of substance abuse, delinquency and child abuse, multiple fostering and history of separation anxiety), family data and management data were obtained through the clinical case notes of each

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patient. We also looked through the outpatient notes of the other clinics of the department for verification viz. the Child Psychiatric Clinic (now named Child Guidance Clinic, Institute of Health), Tampines Child Guidance Clinic and Jurong (now Bukit Batok) Child Guidance Clinic.

Diagnosis was based on the WHO ICD-9 classification 1978⁽¹⁾. Diagnoses were verified by going through the clinical and personal history, family history and outcome of each patient.

RESULTS

Demographic profile

The patient demographic profile is shown in Table I. Of the 100 patients seen, 63 were boys and 37 were girls, giving a male:female ratio of 1.7:1. This is consistent with previous studies both local⁽²⁻⁴⁾ and abroad⁽⁵⁻⁷⁾ on child and adolescent populations which showed a male preponderance. Although the unit caters to children and adolescents of all ages, majority (60%) came from the 15 – 19 year age group. This is comparable to Western studies⁽⁸⁾. Ninety-six percent of the patients were Singaporeans. In Singapore, pre-primary education is conducted by private institutions. Children then enter primary one at the age of six. All pupils are provided with at least 10 years of general education: six years of primary and

four years of secondary education⁽⁹⁾. In our study, more than 50% of patients had secondary education at the time of admission. Thirteen percent were attending special schools for the mentally retarded. Ninety percent of patients lived in HDB flats and this is comparable with the general population of which 87% live in HDB flats⁽¹⁰⁾.

Source of referral

The majority of patients (48%) were referred from the Department of Child and Adolescent Psychiatry (DCAP) after preliminary assessment or failed outpatient treatment. Self referrals (16%) to the Woodbridge Hospital Admissions room formed a large proportion as well. General hospitals (10%) and police (9%) were the next highest sources. In total, 71% of referrals came from doctors.

Presenting complaints and diagnosis

The main symptom as stated in the case history for admission is invariably serious. Bizarre behaviour (25%), aggressive behaviour (22%) and suicide attempts (13%) form the most common reasons for admission. Inpatient treatment is also the treatment of choice for intractable school refusal and severe weight loss. Others included insomnia, vandalism, drug addiction and encopresis with enuresis. Boys tend to present with more aggressive and violent behaviour while girls tend to present with bizarre behaviour and suicide attempts. Forty percent of patients had rather short duration of symptoms. Sixteen percent had problems lasting more than 1 year before they sought treatment. About 56% of patients with psychosis had problems for more than 6 weeks before they sought treatment while those with neurotic conditions tend to seek treatment earlier. Psychotic conditions formed the bulk of the cases. Neurosis accounted for more than 10%. Adjustment reaction, conduct and emotional disorders were also quite common. All patients diagnosed as conduct disorder were boys while all those with anorexia nervosa were girls (Table II). Only 10% of patients had a secondary diagnosis. Mental retardation was the most common secondary diagnosis. In comparing the diagnosis with presenting complaints, most bizarre behaviour was accounted for by a psychosis but aggressive behaviour could be accounted for by a variety of conditions including conduct disorder and mental retardation.

Childhood history and family history

Fifteen percent reported antenatal and birth complications. Sixteen percent had delayed developmental milestones. Five percent reported nocturnal enuresis. Nineteen percent reported medical conditions in childhood. Twenty-eight percent had childhood psychiatric treatment. One percent had a history of substance abuse. Seven percent had a history of delinquency. Eight percent had a history of alleged or confirmed child abuse. Eight percent had multiple fostering experiences and 2% had a history of separation anxiety. The majority of patients came from nuclear families and only 2% came from extended

Table I – Demographic profile

Sex ratio	Number (%)	
Male	63	
Female	37	
Age	Number (%)	
Below 8	0	
8 – 11	8	
12 – 14	32	
15 – 19	60	
Nationality	Number (%)	
Singaporean	96	
Malaysian	2	
Others	2	
Ethnic group	Number (%) [General Population]	
Chinese	80	[78]
Malay	17	[14]
Indian	3	[7]
Others	0	[1]
Educational levels	Number (%)	
Pre-primary	1	
Primary	18	
Secondary		
Normal stream	25	
Express stream	28	
Vocational/ITE	11	
Pre-university	3	
Tertiary	1	
Special schooling	13	
Accommodation	Number (%)	
HDB	90	
Private	8	
Others	2	

Table II – Primary diagnosis

Primary diagnosis	Total	Number (%)	
		Boys	Girls
Psychotic conditions			
Schizophrenia	27)	17)	10)
Other psychoses	11] 43	6] 27	5] 16
Affective disorders	5)	4)	1)
Neurosis	11	7	4
Adjustment reaction	9	8	1
Conduct disorder	8	8	0
Emotional disorder	8	2	6
Anorexia nervosa	6	0	6
Mental retardation	5	5	0
Acute reaction to stress	4	1	3
Personality disorder	1	0	1
Sexual deviation	1	1	0
Alcohol and drug dependence	1	1	0
Sleep disorder	1	1	0
Encopresis and enuresis	1	1	0
Normal variation	1	1	0
Total	100	63	37

families. Majority of patients had married parents but 16% had parents who were either divorced or separated. Seven percent of patients were fostered or adopted but the majority had natural parents. Fifteen percent had a history of mental illness in first degree relatives. Of these, 6 had a psychotic illness. Eighteen percent had a history of mental illness in other relatives.

Management and outcome

All admissions to our ward received a combination of individual therapy, family sessions, group therapy and occupational therapy. Twice weekly ward rounds allowed the various members of the team to compare notes and discuss further treatment. Besides what is common for all admissions, treatments based on the patient and their presenting problems (eg. drug treatment, electro convulsive therapy (ECT), other

psychotherapies and liaison with external agencies) were employed. Duration of admission was quite evenly distributed but most patients stayed between 1 to 3 months. This was considerably longer than in the West⁽⁹⁾. No patient stayed beyond 6 months.

Eighty-nine percent of patients completed treatment and were certified well enough for discharge. Eleven percent discharged themselves prematurely usually because of parental objections. About 20% of patients stopped schooling after admission, the majority of which had psychoses (Table III). Twelve percent of patients received some form of rehabilitation after discharge. This was provided at the Adolescent Day Treatment Centre in CAIU or at the Day Centres within the community. Thirty-two percent of patients were still on follow-up as outpatients as of 1 Jan 95 and 21% did not require further treatment. We had a default rate of 25%. Of these, only 5 patients (20%) were psychotic. Twenty-two were re-admitted to our ward, majority of which was within 3 months.

DISCUSSION

Demographic profile

Child psychiatry as a speciality is still a fledging one with a short history. Inpatient treatment is even newer and only started in the 1920s and 1930s⁽¹¹⁾. However, those early pioneer units treated mainly children with post-encephalic brain disorders. No local inpatient child and adolescent psychiatric population studies have been published since an inpatient unit in Singapore was set up in 1982. Hence we compared our findings with 3 local studies⁽²⁻⁴⁾ of outpatient child and adolescent psychiatric populations done over the last 3 decades. Although these were outpatients, the demographic profile of the patients were generally similar.

Table III – Outcome of patients

Diagnosis	Return to school	Referred to special school	Transferred to less competitive stream	Stopped schooling	Not schooling	On follow up	Defaulted	Discharged	Readmitted
Psychosis	14	2	3	16	8	21	1	5	15
Neurosis	8	1			2	4	4	2	1
Adjustment reaction	7			2		2	2	5	
Emotional disorder	7			1		1	4	2	1
Stress reaction	4						3	1	
Conduct disorder	6				2	2	2	2	2
Mental retardation	2				3	1	2	1	1
Eating disorder	6					1	1	4	
Others	5				1	0	2	3	2
Total	59	3	3	19	16	32	21	25	22

Sources of referral

As the Inpatient Unit is part of the Department of Child and Adolescent Psychiatry, most of its referrals were, not surprisingly, from the outpatient services of the department itself. However, about half of our cases are still referred from other sources. This is in comparison with overseas centres which have a fundamental dichotomy of inpatient services⁽¹²⁾ between large, publicly funded psychiatric hospitals whose services closely resemble residential treatment centres and smaller private general hospitals which provide a full array of medical, surgical and psychiatric services. Thus depending on the affiliation of the inpatient services, the referral sources are therefore defined.

Presenting complaints and diagnosis

By virtue of the unit being the only inpatient service specifically for child and adolescent patients in Singapore, there was a need to provide services that were varied and comprehensive, while at the same time highly specialised. Thus the unit handled a variety of conditions ranging from assessment, treating severe mental illnesses and dealing with specific psychiatric conditions. Almost half of our patients were psychotic compared to less than 15% of cases in outpatient studies. However, we still treated a large number of non-psychotic conditions, notably school refusal and anorexia nervosa. The fundamental difference between our inpatient population and an outpatient one lies in the severity of the young patient's condition. It may seem surprising that only a small number of patients were admitted for conduct disorder (8%) and mental retardation (13% which includes secondary diagnosis). This can be explained by the fact that severe conduct disorder is a criteria against admission and that in Singapore, these 2 conditions are managed in a variety of non-psychiatric, institutional settings, including juvenile detention, social welfare and special educational systems. The patients who refused to go to school and who were admitted to our unit comprised mainly of boys between the ages of 12 and 14. Adjustment disorders and emotional disorders were the most common diagnosis and most had a short duration of symptoms before admission. Only 2 were psychotic. Eleven successfully returned to school after treatment and only 2 dropped out of school. These findings are similar to the only local study on school refusal⁽¹³⁾. Six patients were admitted to the unit with anorexia nervosa. All were post-pubertal school girls. Majority had 1 year of symptoms before admission. All were discharged after they successfully completed treatment but 4 defaulted follow-up upon discharge. The profile and outcome of these patients were similar to a local study done in 1982⁽¹⁴⁾.

Childhood and family history

The childhood history of birth complications (15%), delayed development (21%), medical problems (19%), previous psychiatric treatment (28%), child abuse (8%), delinquency (7%), substance abuse (1%), multiple fostering experience (8%) and separation

anxiety symptoms (2%) are interesting as these are known to be risk factors in psychiatric disorders⁽¹⁵⁻¹⁷⁾. However, much data was not elaborated in the notes and this being a retrospective study, details were unavailable. A future prospective study would be useful to determine the importance of these factors in the development of childhood psychiatric disorders.

Children from extended families have been shown to have the same rate of psychological disorders as those in nuclear families⁽¹⁸⁾. However, our study shows that only 2% of patients come from extended families. It is likely that in the Singapore context, an extended family with its extended support system is protective for the child and adolescent. Single parents, separation and divorce have been shown to be associated with increased psychiatric problems in children⁽¹⁹⁾. The rates of parental divorce in our study (14%) were much higher than the general population (1.2%)⁽¹⁰⁾ which tends to strengthen this belief. A family history of mental illness predisposes a child to mental illness not only through genetic mechanisms but may also be contributed through environmental factors. The prevalence of mental illness in first degree relatives of psychotics was 13.1%. This was higher than most familial studies of schizophrenia⁽²⁰⁾. However, there are limitations in recording family history from such a retrospective survey and these may be addressed in a future prospective study through the use of stringent diagnostic criteria, independent diagnosis of patients and their family as well as the use of structured interview schedules.

Management and outcome

The treatment philosophy of our Unit aims at comprehensive evaluation and treatment of the child as well as the child's important environments, namely at home and in school, and how these two interact. Quite a wide variety of treatment modalities were employed reflecting the Unit's holistic approach but improvements still need to be made. Education programmes are an important but often neglected aspect of a child and adolescent hospital programme. Our study shows that the majority of our inpatients stayed between 1 and 3 months and some (16%) are not attending school. Furthermore, there is some evidence that children in inpatient units have a significant cognitive and/or learning disorder⁽²¹⁾. This indicates a need for the development of educational programmes at our Unit.

CONCLUSION

Many parents as well as their family doctors were not keen to admit their children to CAIU because of the stigma associated with Woodbridge Hospital (an adult psychiatric facility). This is one reason to explain the rather long duration of symptoms before patients are admitted. Thus, even though the child or adolescent was suffering from a psychotic illness, 55.8% of parents waited more than 6 weeks before admission. Almost half of the cases admitted were through the Department of Child and Adolescent Psychiatry where

some rapport and trust had been built. Singapore does not have a psychiatric inpatient unit exclusively for children and adolescents in a General Hospital setting but if such facilities were available, we would expect less resistance to admission.

To further develop inpatient child and adolescent psychiatry in Singapore, there is a need for more refined research to increase understanding in various areas such as basic phenomenology about childhood onset psychiatric disorders and their relationship with various risk factors, the development of specific treatment strategies which are applicable in Singapore and the appropriate use of multidisciplinary team members in an inpatient unit. The role of a good inpatient unit is not merely therapeutic but serves as a source of training, teaching and an excellent environment for research. This in turn can improve the child and adolescent mental health of Singapore beyond the actual number of patients passing through its doors.

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REFERENCES

1. WHO: Mental Disorders: Glossary and guide to their classification in accordance with the Ninth Revision of the International Classification of Diseases, WHO 1978.
2. Long FY, Oon PK, Lee MM. Two years' experience of child guidance service in Singapore. *Singapore Med J* Oct 1972 13(5):245-8.
3. Goh CW, Bose P. Child psychiatric problems in Singapore: A retrospective study of a year's new patients. *Singapore Med J* Feb 1980; 21(1): 467-73.
4. Ko SM, Goh CW, Tan SK, Chan S. A comparative study of new cases seen at the Child Psychiatric Clinic in 1975 and 1985. *Singapore Med J* 1989; 30:553-6.
5. Wong CK. Child Psychiatry in Hong Kong I: A retrospective study. *J H K Med Assoc* 1988; 40(1):40-9.
6. Wong CK. Child psychiatry in Hong Kong: An overview. *Aust N Z J Psychiatry* 1990; 24:331-8.
7. Larsen FW. A 30-year follow-up study of a child psychiatric clientele 11 Psychiatric morbidity. *Acta Psychiatr Scand* 1991; 84:65-71.
8. Kiesler CA, Simpkins C. Changes in psychiatric inpatient treatment of children and youths in general hospitals: 1980-1985: *Hospital and Community Psychiatry* 1991; 42(6):601-4.
9. Ministry of Information and the Arts. Singapore 1994, a review of 1993.
10. Department of Statistics Singapore. Singapore Census of Population 1990.
11. Hersov L. Inpatient and Day Hospital Units in Rutter M, Taylor E and Hersov L (Eds). *Child and Adolescent Psychiatry: Modern Approaches*. Blackwell Scientific Publications 1994:983-95.
12. Woolston JL. Psychiatric Inpatient Services in Lewis M (Ed): *Child and Adolescent Psychiatry*. 890-894: 1996.
13. Goh CW. School refusal: Clinical features and treatment outcome. *Singapore Med J* 1989; 30:550-2.
14. Ong YL, Tsoi WF, Cheah JS. A clinical and psychosocial study of seven cases of Anorexia Nervosa in Singapore. *Singapore Med J* 1982; 23(5):255-61.
15. Rutter M. Family and social influences on behavioural development. *J Child Psychol Psychiatr* 1985; 26(3):349-68.
16. Kashani JH, Alison CD, Alzira FV, Stephen MS, John CR. Risk factors and correlates of severe psychiatric disorders in a sample of inpatient children. *Am J Psychiatry* 1990; 147:780-4.
17. Nikapota AD. Child Psychiatry in developing countries. *Br J Psy* 1991; 158:743-51.
18. Cederblad M. A child psychiatric study on Sudanese Arab children. *Acta Psychiatr Scand* 1968; Suppl 200.
19. Rutter M. Resilience in the face of adversity. Protective factors and resistance to psychiatric disorder. *Br J Psy* 1985; 147:598-611.
20. Kendler KS. Genetics of Schizophrenia in Frances AJ, Hales RE (Eds): *American Psychiatric Association Annual Review*. Vol 5. American Psychiatric Press, Washington DC 1986.
21. Woolston JL. Transactional Risk Model for short and intermediate term psychiatric inpatient treatment of children. *J Am Acad Child Adolesc Psychiatry* 1989; 28:38-41.