DEPRESSION AND FUNCTIONAL LEVEL IN SCHIZOPHRENIA: A COMPARISON BETWEEN CHRONIC HOSPITALISED IN-PATIENTS AND COMMUNITY CARE PATIENTS

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ABSTRACT: Recent innovations in the treatment of schizophrenia reflect a growing trend towards community-based care. Malaysia had in the past few years attempted to deinstitutionalise mental patients in the mental hospitals. Therefore it is important to conduct research to compare the two groups of schizophrenia patients (community-based patients against chronic hospitalised patients) to ascertain if deinstitutionalisation has been beneficial. The main objective of the study was to compare levels of depression and function in community-based patients against chronic hospitalised patients as depression is prevalent among schizophrenia patients. This study was cross sectional in nature where data was collected from 51 inpatients in Hospital Bahagia Ulu Kinta (HBUK) and 23 community-based patients. Calgary Depression Scale for Schizophrenia (CDSS) and Global Assessment of Functioning scale (GAF) were the assessment tools used. Community-based patients were found to have significantly lower scores in the CDSS scale (1.96) as compared to chronic hospitalised patients (4.04); $p < 0.01$). They also showed higher functional capability between community-based and hospitalised patients respectively (74.04 vs 57.92) respectively. ($p < 0.001$). Community services appeared to be more effective than long stay in-patient services in preventing depression and promoting better functional levels. *(JUMMEC 2007; 10(2):31-36)*

KEYWORDS: Schizophrenia, depression, functionality, community, institutionalisation

Introduction

Schizophrenia is a devastating illness. It runs a chronic course where there is lifetime morbidity and diminished quality of life. Several studies have shown that over a five to ten-year period after the first psychiatric hospitalisation, only about ten to twenty per cent of the patients can be described as having had a good outcome. More than fifty per cent of the patients can be described as had a poor outcome, with repeated hospitalisations, exacerbations of symptoms, episodes of major mood disorders (especially depression) and suicidal attempts. Reported remission rates range only from ten to sixty per cent. There is only an estimated twenty to thirty per cent of schizophrenia patients that are able to lead somewhat normal lives. About twenty to thirty per cent of patients continue to experience moderate symptoms and forty to sixty per cent of patients remain significantly impaired by their disorder for their entire lives(1). The outcome of an illness is variable and can be relatively mild, with the patient suffering one (16%) or several (32%) episodes, and little or with no lasting impairment(2). However, for those experiencing repeated episodes the outcome is worse, with 9% suffering lasting impairment and 43% enduring increasing severe symptoms with no periods of complete remission (3). It was suggested that approximately 50% of persons diagnosed with schizophrenia eventually become significantly and permanently disabled (4).

Ever since Second World War, several factors led to changes being made in psychiatric hospitals as social attitudes had become more sympathetic towards psychiatric patients. The introduction of chlorpromazine in 1952 made it easier to manage disturbed behaviour, and therefore, easier to open wards, to engage patients in social activities and to discharge some of them into

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the community. After the initial success of discharging many institutionalised patients, it was optimistically proposed that large asylums could be closed and replaced by small psychiatric units in general hospitals with support from community facilities. This pace of change differed from country to country. One of the earliest countries to implement a shift towards Community Care was Italy, where in 1978, they passed a law, which was aimed to abolish mental hospitals and replaced them with a comprehensive system (5). Locally, the first step towards community care was initiated on 13 November 2000 in Johore state.

In Malaysia, there are currently four institutions, two in Peninsular Malaysia, one in Sabah and one in Sarawak. Hospital Bahagia Ulu Kinta (HBUK), where this study was carried out, is one of Malaysia's largest psychiatric institution. Currently, there are about 2200 in-patients, of whom some had been there ever since World War Two. In line with the global trends towards community care, HBUK started its community service in April 2001.

Recent innovations in the treatment of schizophrenia reflect a growing trend towards community-based care (6). These programs reduce psychiatric hospitalisation rates, improve residential stability, and result in improved satisfaction with care. Community care is more successful at maintaining clinical contact, are more valued by patients and offer greater opportunity for staff to deliver continuing and effective face-to-face treatments; they have produced improved patient outcomes in several domains, although notably not in symptom reduction (7,8,9).

On the well-being of chronic mental patients, it was found that long-term patients in mental homes with psychotic disorders were reported to have a lower quality of life than the general population (10,11). Long-term patients experienced loneliness after discharge from institutions (12). However, in a similar study in Norway, it was found that patients outside of institutions were the most socially active and had the most satisfying contact with their families. Patients reported a satisfactory quality of life, and those who lived outside institutions tended to be most satisfied with their living situation and reported a relatively high quality of life (13).

In Malaysia, there is limited local data on community psychiatry and we had to rely mainly on data from other countries which may not be applicable here. Realising this, we decided to embark on this study looking at depression and functional level in chronic hospitalised schizophrenia patients in HBUK in comparison with community care schizophrenia patients.

Methods

This was a cross sectional study where samples were collected from two groups of patients; in-patients and community care patients. Both groups of patients were included in the study only if they had agreed to participate in the study and agreed to be interviewed. The in-patients were recruited from the "medium stay" ward, where patients who had been admitted for more than a month. The matrons' in-charge from both the male and female wards selected schizophrenia patients through quasi randomisation. It was a blind procedure to the investigators as the matrons were not involved in the management of the patients. The interviewer was then given the list of patients for the interview. He was not aware about the patients' conditions and management prior to the interview. As for the community care patients, the patients were collected via convenient sampling depending on the dates picked for the visit. There were various teams visiting the patients daily. Not every team visited their patients daily. The dates picked were according to the availability of the researcher and the teams visiting their patients. The researcher recorded all the patients that were visited on that day. Patients fulfilling DSM IV criteria for schizophrenia were included. The patients were assessed on depression symptomatology and their functions. The rating scales used in the study were the Calgary Depression Scale for Schizophrenia (CDSS) and global assessment and functioning scale (GAF).

Calgary Depression Scale for Schizophrenia (CDS) is a validated and reliable tool used internationally and it is used for assessment of depressive symptoms, separating them from positive, negative and extra pyramidal symptoms in people with schizophrenia (14, 15, 16, 17, 18). It is an observer scale, semi-structured and goal directed in nature. Internal and inter-rater reliability of the scale has been shown to be good (16). From the receiver-operator curve for CDS, a score of above 5 has high sensitivity and specificity for depression. However, the Malay and Mandarin versions are translated versions by authors from Malaysia and Taiwan and they are not validated.

Statistical tests were carried on to compare the scores of these scales among the two groups. Separate analysis was also carried out after excluding those on antidepressant to omit the possible beneficial effects of antidepressant.

The study was approved by Ethics Committee in HBUK prior to the start of the data collections.

Results

A total of eighty patients were picked of whom two refused to be interviewed and four were deemed to be too psychotic to be assessed; of the remaining 74, 51(68.9%) were from the wards and 23(31.1%) from home care.The sociodemographic distribution of patient is shown in Table 1.

The clinical profiles of the patients is illustrated in the Table 2. There seems to be a wide variation in the duration of illness of the subjects. A majority of them have been suffering from schizophrenia for duration of between 6-10 years and 16-20 years. Average years of illness did not differ much from each other.

From the sample collected, there was a total of fifteen patients on antidepressants, representing 20% of the total sample. Five (22%) of those patients were from home care (3 males, 2 ladies) and 10(20%) were from the ward (6 males, 4 females). Some of them were started on antidepressants even prior to being included in the home care services. However, there was no statistical significance between the two groups (χ^2=0.45, p=0.833).

Using CDSS for assessing depressive symptoms, we found the mean score for home care and institutionalised patients were 1.96± 2.01 and 4.04± 3.64 respectively and this difference was statistically significant (t =-3.154, p< 0.005).

Further analysis after inclusion of those patients on antidepressant, we found that the CDSS mean score for home care patients were 1.89± 1.81 and for ward patients were 4.38± 3.75 (p< 0.001). CDSS score of more than five would be indicative of depression as proposed, there were 17(42%) out of the 40 in ward patients who were not on antidepressants could be depressed. As for the home care patients, 1(6%) out of the 18 patients not on antidepressants could be depressed. This difference was statistically significant (χ^2= 7.916, p<0.005).

Table 1. The sociodemographic distribution of patients

Characteristics		Home care N=23	In-patients N=51	Statistical significance
Mean age (years)		39.7	33.6	NS
Sex	Male	14	23	NS
	Female	9	28	
Marital	Married	3	13	NS
	Not married	20	38	
Education	< SRP	5	12	NS
	> SRP	18	39	
Race	Malay	5	25	NS
	Chinese	15	20	
	Others	3	6	

NS: non-significant
SRP: Sijil Rendah Pelajaran (Lower Certificate of Education)

Table 2. The clinical profile of both groups of patients

Clinical profile	Home care	In-patients	Statistical significance
Duration of illness	12.7± 7.54	13.8± 8.01	NS
Use of antidepressants	5	10	NS

NS: non-significant

The mean GAF score of home care and institutionalised patients were 74.0± 11.48 and 57.9± 12.65 respectively and this was statistically significant (t =-5.413, p< 0.005).

Further analysis after inclusion of those patients on antidepressants, the mean GAF score of home care patients was 74.2± 11.42 whereas ward patients' mean GAF score was 57.4± 12.04. It was still statistically significant (t =-5.102, p<0.0001). A negative correlation (r = -0.2) was shown between GAF score and CDSS but it is not statistically significant (p= 0.10).

Discussion

Several main findings were highlighted in this study. Firstly, more patients in the institution were depressed when compared to the patients in the community (42% vs 6%). Secondly, the patients who were in the community had higher functioning when compared to institutionalised patients.

Depressive symptoms seemed to be part and parcel of schizophrenia, even in a cohort specifically defined so as not to be in a major depressive episode or to have schizoaffective disorder. The estimates of the frequency of depressive episodes in patients with schizophrenia range from 20% to 80 % (19,20). In this study, it was shown that 42% of the chronic institutionalised were depressed as compared to only 6% of home care patients, implying that home care could be effective in preventing depression.

Home care patients were found to have higher functional ability when compared to the institutionalised patients. Home care patients scored an average of 74 in GAF score; whereas the institutionalised patients only scored an average of only 58. The difference remains after excluding patients on anti-depressant. This implies that home care could be effective in rehabilitating the patients or preventing further deterioration in functioning.

There could be various explanations regarding the significance depending on the depressive symptoms and functionality in these groups. Maslow proposed a theory of motivation in terms of a hierarchy of needs (physiological, safety, belongingness and love, esteem and self-actualisation) (21). Different types of need have been identified, namely felt (experienced), expressed (experienced and communicated), normative (based on judgement of professionals) and comparative (based on comparison with the position of other individuals or reference groups) (22). This takes into account the different perceptions of need that can exist (23) whether focussing on strengths, with a need indicating an area of potential development, or focusing on deficits, in which needs are for treatment. Thus, the shift of patients from institutions to community may have helped the patients. When the patients are in the community, all of them are staying with their respective families. They could have felt belonged and loved. They felt safe in the midst of their family members.

Also, in the community, there are also more potential areas for development such as jobs or careers of their preference, thus having more opportunity to explore their strengths and weakness, further strengthening their potential and also overcoming their weakness. Hence, their self-esteem and self-actualisation will improve. This could have been reflected on the higher functional and lesser depressive levels among the community patients. However, there was no significant correlation between overall functioning status and depressive levels in both groups, thus from this study, higher functioning status among the community patients may not be due to lower depressive level in these patients.

In a similar research conducted by Zlotnick, *et al* (24). who did a naturalistic follow-up research on the type of treatment, dysfunctional attitudes, social support, life events, and depressive symptoms. He found that fewer stressful events and more positive social support were related to less severe depression in both men and women. Thus, the community patients may have received the social support they needed and this may have helped produce better outcome.

We have seen improvements in functional ability and also a much lower rate of depression among the community based patients. These findings are important as the community usually has a much lower tolerance toward mentally ill patients. It is hoped that with these findings, it will encourage the family members and the community to take a much more proactive role to care for the patients. It will also act to refute the claims by the society that mental patients should be 'caged' in mental institutions. It is also hoped that with these findings, it will become an incentive to the visiting health staffs that their labour is not in vain.

These findings have strong implications for policy makers. Policy makers have always been concerned about the safety of the public if the mental patients are cared for in the community. They have long held on to the beliefs that mental patients should be in mental institutions.

Furthermore, deinstitutionalisation will mean that more services should be provided, i.e., more financial allocations. This report, will show policy-makers that it may be more cost effective to treat the patients in the

community than in hospitals. It is hoped that, the policy-makers will actively participate in rehabilitating these unfortunate people.

Several limitations are recognised in this study. Firstly, due to the cross sectional nature of the study, baseline functioning and depressive levels of the patients could not be ascertained to determine if the community care truly had a beneficial effect on functioning and depression. Secondly, the number of sample size was small. Thirdly, one has to be cautious and realise that the home care patients may have higher functioning to start with, therefore more likely to be treated in the community. However in this study, we were unable to do pre- and post -assessment of CDSS/ GAF. Fourthly, the community patients were selected based on the dates picked and the teams who visited their clients. Thus, in the future research should focus on larger sample size and also explore other factors that may influence functions

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References

1. Kaplan BJ, Saddock, VA. *Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry*. 9th Ed. New York, Lippincott, Williams & Wilkins, 2004.
2. Shepherd M, Watt D, Faloon I, *et al*. The natural history of schizophrenia: a five-year follow-up study of outcome and prediction in a representative sample of schizophrenia. *Psychol Med (monog) 1989*; 15:1-44.
3. Watt DC, Katz K, Shepherd M, *et al*. The natural history of schizophrenia: 5-year prospective follow-up of a representative sample of schizophrenics by means of a standardised clinical and social assessment. *Psychol Med 1983*; 13:663-70.
4. Rupp A, Keith SJ, *et al*. The costs of schizophrenia: Assessing the burden. *Psychiatric Clinics of North America 1993*; 16:413-23.
5. Gelder M, ed. *Shorter Oxford Textbook of Psychiatry*. 4th Ed. Oxford: Oxford University Press, 2001.
6. Anders SL, *et al*. Improving community-based care for the treatment of schizophrenia: lessons from native Africa. *Psychiatry Rehab J 2003*; 27(1): 51-8.
7. Addington J, *et al*. Clinical issues related to depression in schizophrenia: an international survey of psychiatrist. *Acta Psychiatri Scand 2002*; 105(3):189-95.
8. Lehman A, Steinwachs D, *et al*. Translating research into practice: the schizophrenia patient outcomes research team (PORT) treatment recommendations. *Schizophr Bull. 1998*; 24:1-10.
9. Mueser K, Bond G, Drake R *et al*. Models of community care for severe mental illness: a review of research on case management. *Schizophr Bull 1998*; 24:37-74
10. Sørensen T, Næss S, *et al*. To measure quality of life: relevance and use in the psychiatric domain. *Nord J Psychiatry 1996*; 37(suppl):29-39
11. Lehman AF, Ward N, Linn L, *et al*. Chronic mental patients: the quality of life issue. *Am J Psychiatry 1982*; 139:1271-76
12. AF, Possidente S, Hawker F, *et al*. The quality of life of chronic mental patients in a state hospital and community residences, *Hospi and Comm Psychiatry 1986*; 901-07.
13. Lisbet B, Egil W M, Torleif R, *et a*l. Quality of Life, Loneliness and Social Contact Among Long-Term Psychiatric Patients. *Psychiatric Services 1999*; 50: 81-84
14. Addington D, Addington J, Schissel BA, *et al*. A depression rating scale for schizophrenics. *Schizophr Res 1990*; 3: 247-51.
15. Addington D, Addington J, *et al*. Attempted suicide and depression in schizophrenia. *Acta Psychiatri Scand. 1992*; 85: 288-91.
16. Addington D, Addington J, Maticka-Tyndale E, *et al*. Reliability and validity of a depression rating scale for schizophrenic. *Schizophr Res 1992*; 6:201-08.
17. Addington D, Addington J, Maticka-Tyndale E, *et al*. Assessing depression in schizophrenia: the Calgary Depression Scale. *Br J Psychiatry 1993*; 163 (suppl.22):39-44.
18. Addington D, Addington J, Maticka-Tyndale E, *et al*. Specificity of Calgary Depression Scale. *Schizophr Res 1994*; 11: 239-44.
19. Bartels SJ, Drake RE, *et al*. Depressive symptoms in schizophrenia: comprehensive differential diagnosis. *Compr Psychiatry 1988*; 29:467-83.
20. DeLisi LE (eds), *et al. Depression in Schizophrenia*, American Psychiatric Press, 1990.

21. Maslow A. *Motivation and Personality*. New York: Harper and Row, 1954.
22. Bradshaw J. A taxonomy of social need. In: McLachlan G, ed. *Problems and Progress in Medical Care: Essays on Current Research*, 7th series. London: Oxford University Press, 1972:69-82.
23. Slade M. Needs assessment. *Br J Psychiatry 1994*; 165:293-96.
24. Zlotnick C, Shea MT, Pilkonis PA, *et al*. Gender, type of treatment, dysfunctional attitudes, social support, life events, and depressive symptoms over naturalistic follow-up. *Am J Psychiatry 1996*; 153:1021-27.