

## THE LENGTH OF STAY OF PSYCHIATRIC INPATIENTS

S. D. SHARMA<sup>1</sup>

CECILIA KURIEN<sup>2</sup>

The length of stay (L.O.S.) in psychiatric inpatient units has become increasingly relevant as external pressures for economic justification of this expensive treatment modality have reinforced clinical and research misgivings about possible adverse effects of hospitalization (Krishner 1982). In a country like India, where the number of psychiatric beds is 0.03 to 0.04 per thousand population, there is a great need to keep hospital stay short. In the past, mental hospitals offered only life long custody, restraints and seclusion. Even after the advent of antipsychotics, many large state hospitals remained poorly staffed, over crowded and occupied by many chronic patients for whom no active treatment had been available. The separation of these patients from their families, the distance from community of origin and the consequences of long term institutionalisation all contribute to the condition from which they suffer (Wing 1962). Due to the almost revolutionary progress in the treatment of mental illness, modern mental hospitals have discarded old custodial outlooks and have converted themselves into therapeutic centres. Whatever be the nature of the mental hospital, there are a good number of chronic patients who stay a long time in them (WHO Report 1978).

A few systematic studies on long stay in mental hospitals have been carried out in the country. Bhaskaran (1970) studied what he called "unwanted patients" in the

Hospital for Mental Diseases, Ranchi. He observed that the reasons for prolonged stay were primarily non-psychiatric and non-medical. Socio-economic factors, rejection of patients by relatives due to stigma of mental illness, economic difficulties related to the upkeep of discharged patients at home, unsympathetic attitude of employers, fear of relapse, and lack of faith by the community in the rehabilitation potential of the patient were found to be responsible for prolonging L.O.S. of patients in hospital. Sarada Menon (1976) listed factors such as lack of social contact before and after admission, unemployment, overt schizophrenic symptoms, re-admission, progressing and non-remitting course, high score on withdrawal behaviour and socially embarrassing behaviour, and low work output to be responsible for prolonged hospitalization. Other studies done in India on the subject were reported by Gupta et al (1968), Bhaskaran et al (1972), Gupta et al (1968) and Somasundaram et al (1982).

Early research into factors affecting L.O.S. (Brown 1960) emphasized the role of social factors. The age of admission, frequency of readmission, duration of illness, diagnosis, number of admissions and social isolation have all been studied and have been found to play a significant part in affecting L.O.S. In addition to these factors, Altman et al (1972) have implicated hospital administrative policies in prolonging L.O.S. of less competent, less socially

1 Ex-Director, Institute of Psychiatry & Human Behaviour, Panaji, Goa

Presently working as Medical Superintendent, Safdarjang Hospital, New Delhi—29

2 Psychiatric Social Worker, Institute of Psychiatry & Human Behaviour Panjai, Goa

adapted patients who reject treatment. Differences between institutions have been studied and it has been shown that units with extremely close ties to both out-patient care and long term inpatient facilities can accommodate a very brief L.O.S. (Lavine et al 1978). It has been argued that ward milieu with a more structured medical model environment seems to be most effective in reducing L.O.S. and keeping patients with major mental illness out of hospital (Herz 1979). Patient variables have been found to affect the hospital staff's willingness to discharge them such as suicide potential and fear of its consequent medico-legal implications (Pallis et al 1975), ability of the patient to care for self (Davis et al 1972, Stein and Test, 1980), level of psychopathology and patients ability of conform to hospitalisation (Eilsworth 1971).

Gordon et al (1985) have related the L.O.S. to the amount of stress and the level of functioning prior to admission. Using axes IV and V ratings of DSM III as measures of stress and level of functioning, they have obtained a strain ratio, which is significantly related to L.O.S. They have proposed that after further study the strain ratio may be used as a predictor of L.O.S.

It has been shown by Caffey et al (1976), Glick et al (1976), Hargreaves et al (1977), Herz et al (1971), Hirach et al (1979), Kennedy and Hird (1980), and Mattes et al (1977) that the shortest feasible patient stay is the best for the patient and the most cost effective. In a critical review of the relevant studies, Kirshnar (1982) has concluded that extended L.O.S. has not been demonstrated to be necessary for effective treatment of any psychiatric condition given adequate alternative resources. Major mental illnesses have been treated effectively in 28 days in the vast majority of cases. Very extended

L.O.S. for chronic patients has not been shown to be a clinically effective treatment.

In the light of these studies, it is obvious that one method of reducing the load on the already overburdened mental health care system in India is to shorten L.O.S. to the minimum. To do this, factors contributing to long stay must be identified, and this knowledge must be used to screen new admissions to ensure that factors leading to long stay be dealt with in a manner that precludes the long stay of the patient. This study attempts to identify the factors contributing to long stay in a mental hospital.

#### **Material and Methods**

The study was conducted in the 350 bedded Institute of Psychiatry and Human Behaviour in Panaji, Goa. The majority of patients suffered from psychotic disorders. They were mostly of a low socio-economic status, and came from the two major religious denominations of Goa. More than 90% of the patients were admitted voluntarily, and the majority of them were discharged between one to three months after admission, but a significant number stayed longer.

#### *Operational Definitions*

**Long stay patient:** one who has continuously stayed in the hospital for two years or more.

**Short stay patients:** one who is discharged from hospital within three months of date of admission.

Of a total of 302 patients in the hospital at the commencement of the study, there were 117 long stay and 85 short stay patients. The long stay patients were the study group and short stay patients formed the control group.

Date was collected from the hospital records, interviews with patients, attending

physicians and nurses. Letters requesting farther information were sent to relatives of all the patients and the further information if obtained, incorporated in the data.

Each patient was assessed clinically and assigned to one of the following four categories:

1. "Improved"—this implied that there were no florid psychiatric symptoms at the time of interview.
2. "Partially improved"—where there was substantial reduction in the severity of symptoms, but no total remission, and the patient was able to conform to social norms and could look after himself.
3. "Same condition"—implied that there was no change in the mental condition of the patient since the time of admission.
4. "Deteriorated" where there was a deterioration of the personality, and the patient was unable to care for himself.

## Results

The study group consisted of long stay patients, 73 male and 44 female, whose duration of stay ranged from 2 to 27 years and 2 to 16 years respectively (Table 1). The difference in sex is not statistically significant with respect to the duration of the stay.

Table 1  
Duration of Stay

Sex	Duration of stay in years					Total
	2-6	7-11	12-16	17-21	22-27	
Male	49	15	7	1	1	73
Female	28	12	4	-	-	44
Total	77	27	11	1	1	117

It was seen that older patients stayed longer than younger patients (Table 2), the mean age of the long stay patients being 50.16 years while that of the short stay patients were 30.07 years.

Association between religion and duration was calculated but this difference was not found statistically significant.

Table 2  
Age and Sex Distribution of Long and Short Stay Patients

Age at the time of admission	Long stay				Short stay			
	No. of male	No. of female	Total	%	No. of male	No. of female	Total	%
0-10	0	0	0	-	1	0	1	1.17%
11-20	2	0	2	1.70%	3	11	14	16.47%
21-30	3	1	4	3.41%	18	7	25	29.41%
31-40	17	6	23	19.65%	12	18	30	35.29%
41-50	30	18	48	41.02%	6	3	9	10.58%
51-60	12	7	19	16.23%	5	2	7	10.58%
61-70	8	9	17	14.52%	-	-	-	-
71-80	1	2	3	2.56%	-	-	-	-
81-90	0	1	1	1.85%	-	-	-	-
Mean Age	50.16				30.07			

$$X^2=76.2 \text{ df } .5 \text{ P}<.005$$

Mean age of long stay patients=50.16, short stay patients=37.07.

Mean age of long stay and short stay patients was noted at the time of admission. In Goa there are 980 females per 1000 males and the percentage broad age composition of population in year is: 0-14=38.09%

15-59=55.27%

over 60 years = 6.63%

49.4% of the males in the long stay group were unemployed at the time of admission compared to 22.72% of short stay males (Table 3b) and there was a significant difference between employed and unemployed males, in relation to the duration of stay. Females were not studied in this way as the women were employed in household duties only. Table 3c also shows that a significantly high percentage of long stay patients were unmarried at the time of admission. There were 31.6% married patients in the long stay group compared to 60% in the short stay group (Table 3c.) It shows that marital status has an association with duration of stay in hospital ( $X^2=16.2$  with 1 d.f. &  $P<.005$ ).

All short stay patients were visited by their relatives, 4.71% daily, 15.29% many times a week, 30.5% once a week, 35.29% once in two weeks and 14.12% once in month (Table 4). Of the long stay patients, 65.81% were never visited after admission, 21.37% were visited once a few years, 5.13% once in every few months, 5.98% once a month and 1.7% once a week. A significantly higher number of the long stay patients had no visitors ( $P<0.005$ ).

Although the majority of long stay patients were diagnosed as suffering from schizophrenia (82.05%), other diagnostic groups were also represented (Table 5). In the short stay group 84.71% were

Table 3(a)  
Religious distribution, occupational and marital status  
of long and short stay patients.

	LONG STAY		SHORT STAY		$X^2$ df. P
	No.	%	No.	%	
<b>Religion % population in Goa</b>					No statistically significant difference between long and short stay groups.
Christian	70	65.5	47	55.29	
Hindu	36	30.8	38	44.71	
Muslim	2	1.7	0	0	
<b>Total</b>	117	100	85	100	

Occupation	Male only		Male only		$X^2 = 8.12$ df = 1 p<.005
	No.	%	No.	%	
Unemployed	37	50.6	34	77.27	
Employed	36	49.4	10	22.73	
<b>Total</b>	73	100	44	100	

Marital status on admission	Male only		Male only		$\chi^2 = 16.2$ df = 1 P<0.005
	No.	%	No.	%	
Married	37	31.6	51	60	
Single	80	68.4	34	40	
<b>Total</b>	117	100	85	100	

Table 4  
Frequency of Visitors of Long and Short Stay Patients

Frequency of Visit	Long stay		Short stay	
	No. of patients	Percentage	No. of patients	Percentage
Daily	0	0	4	4.71%
Many times a week	0	0	13	15.29%
Once a week	1	0.85%	26	30.58%
Once in two weeks	1	0.85%	30	35.29
Once in month	7	5.98%	12	14.13%
Once in every few months	6	5.13	-	-
Once in every few years	25	21.37%	-	-
Never since admission	77	65.82%	-	-
Total	117	100.00%	85	100.00%

( $X^2 = 234.9$ ,  $df = 7$ ,  $P < 0.005$ )

Table 5  
Diagnosis-wise Distribution of Long and Short Stay Patients

Diagnosis	Long stay				Short stay			
	Male	Female	Total	Percentage	Male	Female	Total	Percentage
Schizophrenia	58	38	96	82.05	38	34	72	84.71
Depression	1	0	1	0.85	1	2	3	3.5
Epilepsy with Psychosis	4	4	8	6.84	0	0	0	
Alcoholic senile Psychosis	1	0	1	0.85	0	0	0	
Mental deficiency with psychosis	3	-	3	2.57	0	0	0	
Psychopathic states	1	1	2	1.71	-	-	-	
Unspecified	5	0	5	4.28	5	5	10	11.76
Total	73	44	117	100.00%	44	41	85	100.00

diagnosed as Schizophrenia, 3.53% as depression and 11.76% as unspecified psychosis (Table 5). Schizophrenic patients were found to form the bulk of both long stay and short stay groups. The association of diagnosis to the stay of males and females were evaluated by grouping schizophrenics in one group and the rest in another group (due to the small number of patients with diagnosis other than schizophrenia). It was found that the association was not statistically significant for males or females. This shows that the sex, age and diagnosis do not play an important role in influencing the length of stay.

Complete addresses of patients were available only for 58.12% of long stay patients. Letters were sent to the relatives of these patients. In response to letters, 20.17% did not respond at all.

Table 6 shows the assessment of clinical condition of long stay patients. It was seen that sex has a significant contribution on the clinical outcome of the long stay patients.

Table 7 shows that 8.59% of patients had associated physical diseases causing disability but there was no significant association between the two.

Table 6  
Clinical Outcome of Long Stay Patients

Outcome	Male	Female	Total	Percentage
Improved	16	10	26	22.22%
Partially improved	24	16	40	34.19%
Same	24	6	30	25.64%
Deteriorated	9	12	21	17.95%
<b>Total</b>	<b>73</b>	<b>44</b>	<b>117</b>	<b>100.00%</b>

Table 7  
Number of Long Stay Patients with Associated Physical Diseases

	Total number of Patients	Patients with physical illness and defects
Male	73	5
Female	44	5
<b>Total</b>	<b>117</b>	<b>10 (8.34%)</b>

### Discussion

The length of stay of a patient is influenced by various intrinsic and extrinsic factors. When the intrinsic factors like diagnostic orientation, treatment facilities and hospital policies remain the same, it is significant to highlight the various extrinsic factors which are likely to prolong the L.O.S. of patients in any mental hospital.

#### Visits by relatives and friends

Studies indicate that family visits and wishes concerning discharge were highly related to length of hospitalisation. A study of long stay schizophrenic patients admitted in 1950-55 in London (Brown 1959) showed that there was a positive relationship between lack of visits during the first two months in the hospital and continuous stay for two years. Bhaskaran (1972) reported that 75% of the long stay patients in a Central Government Mental Hospital in Eastern India, had no visits from relatives or friends during 6 months

preceding the study. Sarada Menon (1976) reported that 70% of the long stay patients did not have any visitors for 6 months or longer and that 80% of the short stay patients had visits from relatives and friends. In the present study it was found that all the short stay patients were visited by their relatives frequently. It is interesting to note that there was not even one patient among the short stay group who was not visited by their relatives. On the contrary, among the long stay patients 65.81% were never visited by their relatives after their admission.

Important conclusions can also be drawn from the response to letters sent by the hospital to the relatives of long stay patients. Only 58.12% of the relatives had given complete addresses at the time of admission. 41.88% of the relatives had given incomplete addresses at the time of the patients admission with the result that they could not be traced in connection with discharge. This itself reveals their apathy and complete indifference towards the patients. 64.7% of relatives did not respond to letters, 14.7% replied giving lame excuses for not taking the patients home, and 20.6% visited the patient in response to the letters. This clearly reveals the fact that most of the relatives do not want to keep in contact with their mentally disturbed chronic patients. This reflects the weak emotional bonds between the patient and his family. This is a strong factor in prolonging L.O.S. In this connection, Greenly

(1972) found that family wishes concerning release were positively related to length of hospital stay.

Social isolation seemed to play an important role in determining L.O.S. Single patient stayed longer than married ones. 68% of the male long stay patients were unmarried. Studies from other parts of India have also reported a high percentage of unmarried males among the long stay patients. This observation indicates that marital status is one of the best predictors of L.O.S. in psychiatric hospitals.

It was found that 49.4% of long stay patients were unemployed at the time of admission. From this it can be assumed that patients who were employed prior to admission have a better chance of early discharge. Analysis of the data showed that a significantly higher percentage of long stay patients were unemployed at the time of admission.

The clinical outcome was also found to be an important factor. All the short patients showed improvement at the time of discharge. The majority of the long stay patients exhibited marked psychotic symptoms and did not improve sufficiently to be discharged. However, outcome is not the only factor leading to long stay as it was found that 22.22% of the long stay patients had improved, but were not taken back into their homes by relatives.

Older patients were found to stay longer in hospital in this study. This finding agrees with many reports by other workers that older age predisposes to long stay (Brown 1960, Bhaskaran 1970, Sharma et al 1977).

Predominance of male long stay patients seen in this study may be due to a higher percentage of male patients in the hospital. This could also be due to the problem of managing male patients at

home. This corroborates with the findings of Sharma and Hussain (1977) who reported that females tend to stay for shorter periods in mental hospitals than males.

There was a higher percentage of Catholics amongst the long stay patients. This could be due to nuclear family structure of Catholics in Goa. A nuclear family has a lower threshold to tolerate suffering. The Hindus still have a joint family system, and perhaps were willing to take home mentally ill members of the family.

Physical illness seemed to play an important part in deteriorating L.O.S. in the patients under study. All the short stay patients were free of any serious mental or physical illness or defects. 8.54% of the long stay patients had serious physical illnesses or defects. It may be that multiple handicaps prevent the patient's early discharge. Kuruvilla (1973) similarly noted that long stay patients with both physical and psychiatric abnormalities have double handicap which might contribute to a prolonged stay in hospital. The physical factor may prevent attempts at rehabilitation, limit the use of occupational and recreational therapies and prevent gainful employment.

A long stay in a mental hospital for any reason in itself leads to institutionalism (Wing 1962). This in itself reduces the chance of discharge from hospital. Long stay in hospital leads to difficulties in extramural adjustment (Wing and Brown 1970). Long hospitalisation may have an adverse effect on the attitude of physician, patients and relatives, all of whom have a major role in discharge.

These factors, which have been found to be related to long stay, must be looked into at the time of admission of a patient. wherever possible, early steps must be

taken to ensure that the patient is discharged. The psychiatric social worker is an important person in this screening. The mental hospital system in India must free itself from a custodial role and alternatives to long term hospitalisation must be found. Inpatient stays must be strictly limited to that period of time in the patients illness when (1) the protection that an inpatient unit can provide is essential, as in the management of seriously suicidal or homicidal patients (2) the patients behaviour is so disorganised as to require heavier doses of medication than can be safely given outside the hospital or (3) there is a need for intensive nursing care and related services, as for anorexic patients with medical complications (Arce and Vergare 1985). However, it will remain the responsibility of inpatient units to provide hospital care to chronic patients who are often catastrophically ill, self destructive, impulsive and despite the best efforts of the treatment system, continue to maintain psychotic disorganisation (Sharfatein 1985).

Once the long stay patients are identified early and efforts made to discharge those who can live in the community, more attention can be given to the acute and catastrophically ill chronic patients, by the presently overloaded psychiatric health care system in India.

### References

- ARCE, A. A. & VERGARE, M. (1985), Community residence as an alternative to hospitalisation. *Psychiatric Clinics of North America*, Vol. 8, No. 3, p. 431.
- ALTMAN, H., ANGLE, H. V., BROWN, M. L. & SLETTEN, I. W. (1972), Prediction of length of hospital stay. *Comprehensive Psychiatry*, 13, 431.
- BHASKARAN, K. (1970), The unwanted patients. *Indian Journal Psychiatry* 13, 1.
- BHASKARAN, K., NEELA DHAWAN & MOHAN Y. (1972), A study of the effect of prolonged hospitalisation on schizophrenics. *Indian Journal Psychiatry* 14, 106.
- BROWN, G. W. (1959), Social factors influencing length of hospital stay of schizophrenic patients, *British Medical Journal* 2, 1300.
- BROWN, G. W. (1960), Length of stay and schizophrenia - a review of statistical studies. *Acta Psychiat. Neurologic Scandinavica*, 35, 414-430.
- CAFFEY, E. M., GALBREIGHT, C. R. and KLATT, C. H. (1976), Brief hospitalisation and after care in psychiatry, 24, 81-86.
- DAVIS, E. B., BUTTS, H. F. & LINDO, T. (1972), Some implications of time limited general hospital psychiatric inpatient treatment for outcome of hospitalisation. *Community Mental Health Journal* 8, 92-104.
- ELLSWORTH, R., GORDON, H., GUNN, R., MARONEY, R. (1971), Milieu characteristics of successful psychiatric treatment progress. *American Journal of Orthopsychiatry* 41, 427-441.
- GLICK, I. D., HARGREAVES, W. A., DRUNES, J. & SHOWSTACK, J. A. (1976), Short versus long hospitalisation. A controlled study III Inpatient results for non-schizophrenics. *Archives of General Psychiatry*, 33, 78-83.
- GORDON, R. E., JARDOLIN, P. & GORDON, K. K. (1985), Predicting length of hospital stay of psychiatric patients, *American Journal of Psychiatry* 142, 2, 235-237.
- GREENLY, J. R. (1972), The psychiatric patients family and length of hospitalisation, *Journal of Health & Social Behaviour* 13(1), 25-37.
- GUPTA, P., PRABHU, M. & PRABHU, G. G. (1968), Rehabilitation of the chronic psychiatric patient. *Indian Journal Psychiatry* 10, 157-165.
- HARGREAVES, W. A., GLICK, I. D., DRUNES, J. et al (1977), Short versus long hospitalisation, A prospective controlled study III, Inpatient results for non-schizophrenics. *Archives Journal General Psychiatry*, 34, 305-317.
- HERZ, M. I., ENDICOTT, J. & SPITZER, R. L. (1971), Brief hospitalisation, a two year follow up. *American Journal of Psychiatry*, 127, 371-1382.
- HERZ, M. I. (1979), Short term hospitalisation and the medical *Hospital and Community Psychiatry*, 30, 117-121.
- HIRACH, S. R., PLATT, S., KNIGHT, A. & WAYMAN, A. (1979), Shortening hospital stay for psychiatric care. Effect on patients and their families, *British Medical Journal* 1, 442-446.

- KENNEDY, P. & HIRD, F. (1980), Description and evaluation of a short-stay admission ward. *British Journal Psychiatry*, 136, 205-215.
- KIRSHNER, L. A. (1982), Length of stay of psychiatric patients – A critical reviews and discussion. *Journal of Nervous and Mental Diseases*, 170, 1, 27-33.
- KURUVILLA, K. (1973), Physical illness among the long stay patients of mental hospital, *Indian Journal Psychiatry*, 15, 27-33.
- LAVINE, M. S., WEINER, C. D. & CARONA, P. F. (1978), Monitoring inpatient length of stay in a community mental health centre. *Journal of Nervous and Mental Diseases* 166, 655-660.
- MATTES, J. A., ROSEN, B., & KLEIN, D. F. (1977), Comparison of the clinical effectiveness of "Short" versus "long" stay psychiatric hospitalisation III – Further results of three year follow up. *Journal of Nervous and Mental Diseases* 165, 395-402.
- PALLIS, D. J., LANGLEY, A. M. & BIRTCHNELL, J. (1975), Excessive use of psychiatric services by suicidal patients. *British Medical Journal* 3, 216-218.
- SARADA MENON, M. & RAMACHANDRAN, V. (1976), Social and clinical factors in the outcome of schizophrenics. *Indian Journal of Psychiatry* 18, 1.
- SHARFSTEIN, S. S. (1985), Financial incentives for alternatives to hospital care. *Psychiatric clinics of North America*, 8, 3, 453.
- SHARMA, S. D. & HUSSAIN, S. E. (1977), Duration of stay of psychiatric inpatients in general and mental hospital settings. *Indian Journal Psychiatry* 19 (2), 25-31.
- SOMASUNDARAM, O., JAYACHANDRAN, P. & KUMAR, R. (1982), Long stay patients in a state mental hospital. *Indian Journal Psychiatry* 24(4), 346-351.
- STEIN, L. I. & TEST, M. A. (1980), Alternative to mental hospital treatment I, *Conceptual model*, treatment program and clinical evaluation. *Archives of General Psychiatry*, 37, 392-397.
- WING, J. K. (1962), Institutionalism in Mental Hospital. *British Journal Psychiatry*, 109, 635-641.
- WING, J. K. & BROWN, G. W. (1970), *Institutionalism and Schizophrenia*. Cambridge Univ. Press.
- WHO (1978) Report, "Future of the Mental Hospital". WHO, Copenhagen.