

# BED BLOCKERS: A STUDY ON THE ELDERLY PATIENTS IN A TEACHING HOSPITAL IN INDIA

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## Abstract

A cross-sectional study of in-patients over the age of 60 years was conducted at district McGann Hospital, Shimoga on patients who were classified as bed blockers. Level of dependency and cognitive function of these patients were assessed using Barthel scale and Abbreviated mental test (AMT) respectively. Median age of the study population was 67 years; majority of them were men. Most of them were admitted in the medical ward and the median time to be labeled as bed blocker was 32 days. These bed blockers were a weak group of patients with an average 3.1 pathology per case. Majority of them suffered from neurological disorders and cardiovascular disease. High level of dependence was noted with a mean Barthel score of 29.68 (Range 0 -100). Low levels of cognitive function was also noted among these patients with a mean AMT of 4.76 (Range 0 -10). These findings demonstrate that the bed blockers in McGann hospital suffer not only from genuine health problems but also have a high dependency level in activities of daily living which hamper their discharge to the community. Community based rehabilitation using an intersectoral approach may help at least the less dependent to return home.

## BACKGROUND

The apparent problem of bed blocking and delayed discharges of patients is always an issue for discussion in the monthly meetings in most of the tertiary care hospitals in India. However no studies have been conducted in these hospitals till date to ascertain the nature and extent of the problem. This may be due to sense of disownment by the doctors concerned or due to lack of interest in the problems pertaining to this cohort of patients. This is in complete contrast to the countries in the western world [1 - 3].

A bed blocker can be defined as a patient who no longer needs to occupy a bed meant for acute cases and whose discharge is proving problematic, or who is awaiting transfer to another institution, usually for chronic care. A bed blocker whose discharge is delayed is also called a social case [4]. The main problem is that the bed blocker occupies a bed that might be used by a patient who requires urgent medical or surgical attention.

Hence, we decided to study the demographic profile of the patients, who were classified as bed blockers to know their cognitive functions, dependency levels and also to assess any co-morbidity if present.

## MATERIALS AND METHODS

We chose to conduct the study in the district McGann hospital, the teaching hospital of Shimoga Institute of Medical Sciences (SIMS), as it is the major referral and tertiary care centre catering to the health needs of the millions in the central part of Karnataka, India. The cross sectional study included all the patients who were identified by the district surgeon of the hospital as bed blockers aged 60 and above. A pretested structured questionnaire was used to collect the data from the patients, their attendants and the nursing staff in charge of the in-patient wards. The department of obstetrics and gynaecology was excluded. The study was done over a period of 2 weeks. Age, sex, the in-patient ward where the patient was being treated, diagnosis, the number of diseases present in the patient's medical record and length of stay from admission until deemed a bed blocker were the items collected in the demographic data. Barthel scale 6 [5] depicted in Figure - 1 was used to assess the level of independence and Abbreviated Mental Test score (AMT) [6] shown in Figure - 2 was used to quantify the level of cognitive function.

**Figure 1**

Figure – 1 Abbreviated mental score test

Each correct response scores '1'	
1. Age	
2. Time to nearest hour	
3. His/her address (to be repeated at the end of the test)	
4. Current Year	
5. Name of hospital	
6. Recognition of two persons	
7. Date of birth	
8. Year of independence	
9. Name of current chief minister	
10. Count backwards from 20 to 1	

**Figure 2**

Figure – 2 The Barthel Index

Activity	Score
FEEDING	
0 = unable	
5 = needs help cutting, spreading butter, etc., or requires modified diet	
10 = independent	
BATHING	
0 = dependent	
5 = independent (or in shower)	
GROOMING	
0 = needs to help with personal care	
5 = independent face/hair/teeth/shaving (implements provided)	
DRESSING	
0 = dependent	
5 = needs help but can do about half unaided	
10 = independent (including buttons, zips, laces, etc.)	
BOWELS	
0 = incontinent (or needs to be given enemas)	
5 = occasional accident	
10 = continent	
BLADDER	
0 = incontinent, or catheterized and unable to manage alone	
5 = occasional accident	
10 = continent	
TOILET USE	
0 = dependent	
5 = needs some help, but can do something alone	
10 = independent (on and off, dressing, wiping)	
TRANSFERS (BED TO CHAIR AND BACK)	
0 = unable, no sitting balance	
5 = major help (one or two people, physical), can sit	
10 = minor help (verbal or physical)	
15 = independent	
MOBILITY (ON LEVEL SURFACES)	
0 = immobile or < 50 yards	
5 = wheelchair independent, including corners, > 50 yards	
10 = walks with help of one person (verbal or physical) > 50 yards	
15 = independent (but may use any aid; for example, stick) > 50 yards	
STAIRS	
0 = unable	
5 = needs help (verbal, physical, carrying aid)	
10 = independent	
TOTAL (0-100) _____	

## RESULTS

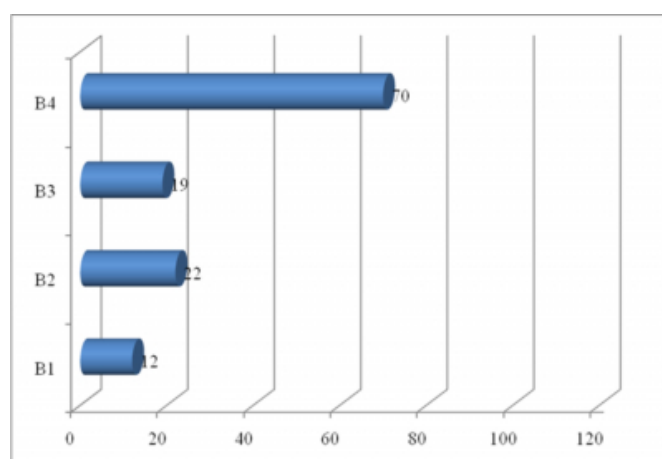
A total of 127 patients, aged over 60 years were identified by the district surgeon as bed blockers during the study period. Of them, 4 refused to participate and were not considered. 97(78.9%) were men and 26(21.1%) were women. Their presence in the in-patient wards were as follows: Medical: 59(48.0%), General surgical: 31(25.2%), Orthopaedics:

18(14.6%) and ENT: 15(12.2%). The median time to be labeled as bed blocker was 32 days (range - 11 to 58 days) and the median age of these patients was 67 years (range - 61 to 83 years).

The Barthel index may be classified in 4 according to the level of dependence [5]. These were divided from B1 signifying a higher level of independence down to B4 in whom patients with the lowest level of independence were found (Figure – 3). The median age for B1 was 63years and that for B4 was 79.The mean Barthel score was 29.68 (SD – 3.13). None of them scored 0/100 or 100/100 which is the considered the lowest and highest score respectively.

**Figure 3**

Figure – 3 Dependency of bed blockers according to Barthel grouping



B1: 12 (9.7%) (Low dependence- Barthel 65-100)

B2: 22 (17.9%) (Medium dependence- Barthel 40-64)

B3: 19 (15.4%) (High dependence- Barthel 20-39)

B4: 70 (57.0%) (Very high dependence- Barthel less than 20)

The mean score for AMT was 4.76 (SD – 2.11). 15[12.2%] patients scored 0/10 and 17[13.8%] of them had a score of 10/10. 56(45.5%) had a normal cognitive state (AMT of >6/10). 38[30.9%] patients were both highly dependent and cognitively impaired when Barthel and AMT were assessed together.

36.4% of the patients with both cardiovascular disease and locomotive disorders were highly dependent but scored better on AMT. 68.2% of the patients with neurological complaints and cardiovascular diseases were highly dependent and scored very low on AMT as well.

Table -1 shows the morbidity analysis from examination of the patients and from the case records; it showed an average pathology of 3.1 per case (SD – 0.9).

#### Figure 4

Table -1

Ailments	Bed blockers	Prevalence in the community
Visual impairment	14.6%	88.0%
Locomotive disorders	39.4%	40.0%
Neurological complaints	62.1%	18.7%
Cardiovascular disease	57.5%	17.4%
Respiratory disorder	22.0%	16.1%
Skin conditions	01.6%	13.3%
Gastrointestinal disorder	19.6%	9.0%
Psychiatric problem	05.1%	8.5%
Hearing loss	02.4%	8.2%
Genitourinary disorder	20.9%	3.5%

Most common ailments present in the bed blockers compared with prevalence of these diseases among the elderly at community level

16 (13%) patients were diagnosed as having dementia. In this case it is important to note that low AMT scores were found in 67 bed blockers (54.5%). 62.1% of cases with neurological disorders were highly dependent (B4) and had low AMT scores. 57.5% of patients with cardiovascular diseases also were highly dependent (B4) and had low AMT scores.

## DISCUSSION

The average age (67years) for being a bed blocker in this study is much less compared to the mean age of similar patients in studies done in Malta [7] and Italy [8, 9] which is around 80 years. This study had more men unlike the studies done on similar cohort [7 - 10] which had more female patients. The majority of the bed blockers were found in the medical wards findings being similar to other studies [7, 8]. These studies were performed only in medical wards so it may be implied that this group of patients are found mostly in these wards. This may also be due to the chronic nature of the pathologies associated with the bed blockers. The most common pathologies all have medical complications and so it would be expected that these patients would be admitted in medical wards.

The low Barthel scores demonstrate that for the most part these bed blockers are a highly dependent group that needs a plenty of external assistance. As discussed previously, men were more dependent than women in this study. There is slightly more dependence reported here in contrast to a study

done in Oxford city hospitals [3]. It was interesting to find that 23% of these bed blockers had a low level of dependence, whilst 10% of total were fully independent in a similar study done in Sweden [10]. It is hypothesized that a comprehensive geriatric assessment and rehabilitation programme using an interdisciplinary approach may improve this cohort's level of independence and may result in a possible discharge back in the community [3, 9]. 31% of the patients were highly dependent and had a poor score on AMT. This population is the one that is likely to require institutional long-term care. This result is similar to the finding a study done in Japan [11]. 22.6% of the bed blockers were found to be independent in both Barthel and AMT; this group of patients may be responsive to a rehabilitative social care programs that may help them to function efficiently in the community.

Regarding morbidity, it is observed that the most common ailments are not interrelated. In the community elderly the prevalence of these diseases is different [12] and may be compared with those present in the bed blockers (Table - 1).

It is clearly evident from the figures above that the patients with neurological complaints, cardiovascular disease, and locomotive disorders carry a high risk of being bed blockers. This is very much comparable to the other studies which report stroke as a major risk factor for bed blocking [3, 7, 10]. The prevalence of cognitive impairments is as high as 54.5%. This could mean that cognitive impairment may be an important factor in increasing the risk of becoming a bed blocker due to its negative effect on independence.

## CONCLUSION

Bed blockers suffer from many diseases and are weak and dependent. Cognitive impairment may be an important factor in these patients. These findings demonstrate that the bed blockers in McGann hospital suffer not only from genuine health problems but also have a high dependency level in activities of daily living which hamper their discharge to the community. A community based rehabilitation program using an intersectoral approach, ideally in a specialized unit, involving geriatricians, community health specialists, physiotherapists, occupational therapists and medicosocial workers may help the less dependent to return to their homes thus making room for the acute cases in the hospital [13].

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