

LENGTH OF STAY OF PATIENTS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Hospitals are overburdened by the number of patients both outdoor and indoor. This study was conducted to determine the length of stay of patients in medical units of a tertiary care hospital in our set up.

Material & Methods: This descriptive study was conducted in the Department of Medicine, Postgraduate Medical Institute, Hayatabad Medical Complex Peshawar, Pakistan from April 15, 2010 to September 15, 2010. Total of 174 patients were studied for the purpose of their length of stay in hospital. Length of stay was determined for age groups, gender and diagnostic status of patients.

Results: Total of 174 patients (90 males & 84 females) were included in the study. Total length of stay of all patients was 826 days. Average length of stay was 4.74 days.

Conclusion: Average length of stay of our patients in medical unit is adequate. Females compared to males stay longer. Patients with predominantly diagnostic problem stay longer. Those above 60 have shorter hospital stay compared to other age groups.

KEY WORDS: Patients, Hospital, Length of stay.

INTRODUCTION

Hospitals are overburdened by the number of patients both outdoor and indoor. Unnecessary admissions in the hospitals is an issue for which special attention has been paid in the developed countries by extensive research on this subject.¹ However the officials of the developing countries are unaware of the issue or the factors contributing to this problem.²

In all health care systems, the use of hospital beds is a concern for policy-makers, managers and practitioners.³ For several years hospital managers have been under pressure to reduce hospital expenditures since it is the largest source of health service expenditures in most countries.⁴ On the other hand, numerous studies have documented that hospital admissions and inpatient days may be inappropriate or unnecessary in certain situations.⁵⁻¹⁰ Thus improving the efficiency of hospital services by a preventive strategy for inappropriate hospital admissions and stay can lead to increase in productivity of the hospitals, reduce the waiting list and the resultant optimal use of existing health care facilities without compromising the quality of care.¹¹⁻¹²

Furthermore, hospital environment increases the risk of hospital associated infections and longer exposure to hospital environment may cause its

higher rate.¹³ Eliminating inappropriate hospital stay decreases the hospital costs and the risks of nosocomial infection and leaves available resources for patients with more critical conditions.

Studies on over-hospitalization have relied on measurement of unnecessary hospital admissions and inappropriate patient days (IPD). Appropriate admission is defined as "those patients for whom there is no alternative to admission to the hospital with high-technology facilities. This would be the case even if lower-technology alternatives to hospital admission existed." In other words, there may potentially be a lower-technology alternative to admission to hospital for patients whose admissions are determined as inappropriate.¹⁴

Appropriate hospital stay can be defined as "inpatient stay requiring continuous and active medical, nursing or paramedical treatment which couldn't be provided through external care, daycare or outpatient care."¹⁵

Studies have shown that 15-30% of hospital admissions are unnecessary.¹⁶⁻¹⁸

This study was designed to determine the average length of stay (LOS) of patients in the medical units and the factors responsible for prolonged LOS in our set up.

MATERIAL AND METHODS

This descriptive study was conducted in the Department of Medicine Postgraduate Medical Institute Hayatabad Medical Complex Peshawar, Pakistan from April 15, 2010 to September 15, 2010. Total of 174 patients were studied for the purpose of their length of stay in hospital. These were residents of various districts of the province, federally administered tribal areas and Afghanistan. A proforma containing the relevant details was filled for each patient. The data included date of admission and date of discharge/expiry. Patients who stayed in the hospital for at least 24 hours were included in the study. Those who left against medical advise were excluded from the study. Length of stay in hospital was determined for age groups, gender and diagnostic status.

RESULTS

Total 174 patients; 90 males and 84 females were included in the study. The average length of stay was 4.74 days. Length of stay of patients according to age, gender and diagnostic status is given in Table 1-3.

Table 1: Length of stay in hospital according to age.

| Age range (years) | Total length of stay (days) | Number of patients | Average length of stay(Days) |
|-------------------|-----------------------------|--------------------|------------------------------|
| 15-40 | 314 | 66 | 4.75 |
| 41-60 | 282 | 54 | 5.22 |
| >60 | 230 | 54 | 4.25 |

Table 2: Length of stay in hospital according to gender.

| Gender | Total length of stay(days) | Number of patients | Average length of stay |
|--------|----------------------------|--------------------|------------------------|
| Male | 398 | 90 | 4.42 |
| Female | 428 | 84 | 5.09 |

Table 3: Length of stay in hospital according to diagnostic status.

| Status | Total length of stay (days) | Number of patients | Average length of stay (days) |
|--------------------|-----------------------------|--------------------|-------------------------------|
| Diagnostic problem | 276 | 52 | 5.30 |
| Management problem | 550 | 122 | 4.50 |

DISCUSSION

Several studies have shown no detrimental effects of shorter hospital stays on various patient outcomes such as hospital readmission or death in the weeks following discharge.¹⁹⁻²¹ A relationship between long LOS and the occurrence of in-hospital complications has been reported.²²⁻²⁴ Not only in hospital complications are increased with over-stay but the cost of treatment also increases.²⁵

In our study average LOS was 4.74 days for all (174) patients. Out of 174 pts 66 were in age range 15-40 years, 54 were in age range of 40-60 years and 54 were above age 60 years. Average length of stay in them was 4.75, 5.22 and 4.25 days respectively. The reason for prolonged length of stay in patients with age range of 40-60 compared to other two groups with comparatively short LOS were not known exactly, however most patients in this group were of diagnostic problems. Patients in age range 15-40 mostly were cases with infections while those above 60 presented with complications of a known illness and took short stay to modify their existing treatment. Moreover Patients above 60 were cases where most death occurred due to complications of cardiovascular and cerebrovascular disorders which resulted in shorter hospital stay compared to others. While hospital admissions for heart failure (HF) are increasing,²⁶⁻³⁰ the average length of hospital stay has decreased in many countries over the last decade, including Scotland²⁶ and the Netherlands.³⁰ For example, the average length of stay in Scotland decreased from up to 3 weeks in 1985 to approximately 1 week in 1995.²⁶ The shortest hospital stay has been reported from Oregon, USA, where the average length of stay for HF decreased from 5 days in 1991 to 4 days in 1995.³⁰ The local healthcare environment may have an important role in determining the threshold for admission and subsequent length of hospital stay.

Out of our 174 patients 90 were male and 84 females with average length of stay of 4.42 and 5.09 days respectively. The factors contributing to prolonged stay in females may be many but few were observed in our study as well. Females are not good historians due to their poor literacy rate in our province and because of social reasons compared to males their exposure during general physical and systemic examination is not adequate which leads to delayed diagnosis and hence longer stay.

The patients in our study, were divided according to their status as predominantly a diagnostic problem (52) or management problem (122). Their average LOS was 5.30 and 4.50 days respectively. The main reasons for prolonged LOS in diagnostic group compared to management group

were non availability of some of the laboratory investigations and high cost.

CONCLUSION

Average length of stay of patients in medical unit is adequate. Females compared to males stay longer. Patients with predominantly diagnostic problem stay longer than those who are diagnosed already and admitted for management. Patients above 60 have shorter hospital stay compared to other age groups.

Studies focusing both on factors responsible for prolonged hospital stay and outcome of patients relative to their duration of stay in hospital need to be conducted.

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