

Hospitalization Patterns of Diabetic Patients in a Tertiary Care Hospital in Bangalore

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Abstract

Background: Hospitalization occurs more often in diabetic than non-diabetic patients and is associated with increased morbidity and mortality. Data on these issues is limited. It is well recognized elsewhere that patients with diabetes are admitted more often and stay longer in the hospital.

Objectives: 1) Documentation of the contribution of diabetes to the inpatient work load in a tertiary hospital; (2) Identification of the departments involved in diabetic patient care; and 3) Assessment of the acute hyperglycemic/hypoglycemic emergencies, complications and “crude” outcome.

Study Setting: MS Ramaiah Teaching Hospital which is a multispecialty teaching hospital.

Inclusion Criteria: In-patients admitted with type 1 and type 2 diabetes.

Study Design: Descriptive, retrospective, record-based study.

Sampling Design: Complete enumeration of all the patients admitted in the ward during September month.

Study Period: October to November 2012.

Statistical Analysis: Proportion of diabetics was calculated. Chi-square test of significance was employed. Results are summarized as mean +standard deviation and/or median (range) for the normally distributed and non-normally distributed data.

Materials and Methods: The data relevant to the study was accessed from in-patient files at medical records department. Information pertaining to age of the patient, diagnosis for which the patient was admitted, type of ward admitted, associated co-morbidities, type of diabetes, duration of stay, episode of uncontrolled hyperglycemia, and associated complications was collected.

Results: 59% of diabetic patients were male. Majority of the patients were in the age group of 50–70 years. 42.9% of the diabetics had duration of diabetes varying between 1 and 5 years. Mean duration of stay was 6.86 days. 45.2% were on oral hypoglycemics. 47.6% of the diabetics had hypertension. 4.8% had hypothyroidism. 9.5% had cardiac disorder. 40.5% of the patients were admitted for one of the microvascular or macrovascular complications. 16.7% of them had uncontrolled glycemic levels. All the patients treated were discharged to home.

Conclusion: The study shows 18.33% prevalence of SCH in T2DM patients with good glycemic control. This finding indicates that SCH was common in T2DM patients and a need for screening for the same in them.

Keywords: Diabetes mellitus, Subclinical hypothyroidism (SCH), Prevalence

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Introduction

The worldwide prevalence of diabetes mellitus has risen dramatically over the past two decades from an estimated 30 million cases in 1985 to 177 million in 2000. Based on current trends >360 million individuals will have diabetes by the year 2030.¹

The WHO estimated that there were 31.7 million persons with diabetes in India in 2000 and that this number is likely to be 71.4 million in 2030. India has the distinction of having the largest number of diabetics in the world.

Hospitalization occurs more often in diabetic than non-diabetic patients and is associated with increased morbidity and mortality. Data on these issues is limited. It is well recognized elsewhere that patients with diabetes are admitted more often and stay longer in the hospital. Despite the positive effect of specialized diabetes care centers and increased support in the community, acute admissions to the hospital remain a serious health event. This fact has been recognized by many professional organizations world-wide.² With the increasing cost of hospitalization, it becomes evident that prevention of lengthy and recurrent admissions should be a priority.

Materials and Methods

Objectives

- Documentation of the contribution of diabetes to the in-patient work load in a tertiary hospital
- Identification of the specialty-based diabetes-related clinical activities
- Assessment of the “crude” outcome of the hospitalization episodes with particular interest in admissions with acute hyperglycemic emergencies

Study Area

The study was conducted in MS Ramaiah Medical College, a tertiary care hospital in Bangalore.

Study Population

All patients admitted to the hospital from 1st to 30th September 2012.

Inclusion Criteria

In-patients admitted with type 1 and type 2 diabetes.

Exclusion Criteria

Patients for whose records were missing.

Study Design

Descriptive, retrospective, record-based study.

Sampling Design

Complete enumeration of all the patients admitted during September month.

Sample Size

A total of 60 cases of T2DM were selected for study which fulfilled both inclusion and exclusion criteria during the study period from 1st January 2007 to 31st December 2007.

Study Period

October to November 2012.

Statistical Analysis

The data was tabulated in SPSS version 16. Results are summarized as mean±standard deviation and/or median (range) for the normally distributed and non-normally distributed data. Chi-square test of significance was employed for testing significant difference in proportions.

Methodology

Prior permission was obtained from the concerned authorities (Chief Administrative Officer) to conduct the study in MS Ramaiah Hospital. The data relevant to the study was accessed from in-patient files at medical records department. Information pertaining to age of the patient, diagnosis for which the patient was admitted, type of ward admitted, associated co-morbidities, type of diabetes, duration of stay, episode of uncontrolled hyperglycemia, associated complications was collected.

Results

A total of 45 patients were enrolled for the present study. The data was available in case of 42 patients. It was observed that 59.5% of the study participants were males and remaining were females. It was observed that most of the patients were aged between 50 and 70 years. 33.3% were between age group of 50 and 59 years and 35.7% were between 60 and 69 years. Table shows that hospitalized patients had duration of diabetes in range of 1–10. 42.9% had duration of 1–5 years, 23.8% had duration of 6–10 years. It was seen that 47.6% of the patients stayed for duration between 1 and 6 days. Mean duration of stay was 6.86 days. It was observed in the present study that 47.6% of total diabetic patients were also hypertensive. It was observed from the present study that 2 patients out of 42 had hypothyroidism. It was observed that 9.5% of the diabetics had previous history of cardiac disorders.

Table 1. Distribution of Study Participants according to Gender

Sex	n (%)
Male	25(59.5)
Female	17(40.5)
Total	42(100)

Table 2. Distribution of Study Participants according to Age

Age (years)	n (%)
<30	1(2.4)
30–39	2(4.8)
40–49	7(16.7)
50–59	14(33.3)
60–69	15(35.7)
>70	3(7.1)
Total	42(100)

Table 3. Distribution of Study Participants according to Duration of Diabetes

Duration (years)	n (%)
0	6(14.3)
1–5	18(42.9)
6–10	10(23.8)
11–15	4(9.5)
16–20	3(7.1)
21–25	1(2.4)
Total	42(100)

Table 4. Distribution of Study Participants according to Duration of Stay

Duration of Stay in Days	n (%)
<6	20(47.6)
6–10	17(40.5)
11–15	4(9.5)
>15	1(2.4)
Total	42(100.0)

Table 5. Distribution of Study Participants according to Type of Treatment

Treatment	n (%)
Oral hypoglycemics	19(45.2)
Insulin	11(26.2)
Both	11(26.2)
None	1(2.4)
Total	42(100.0)

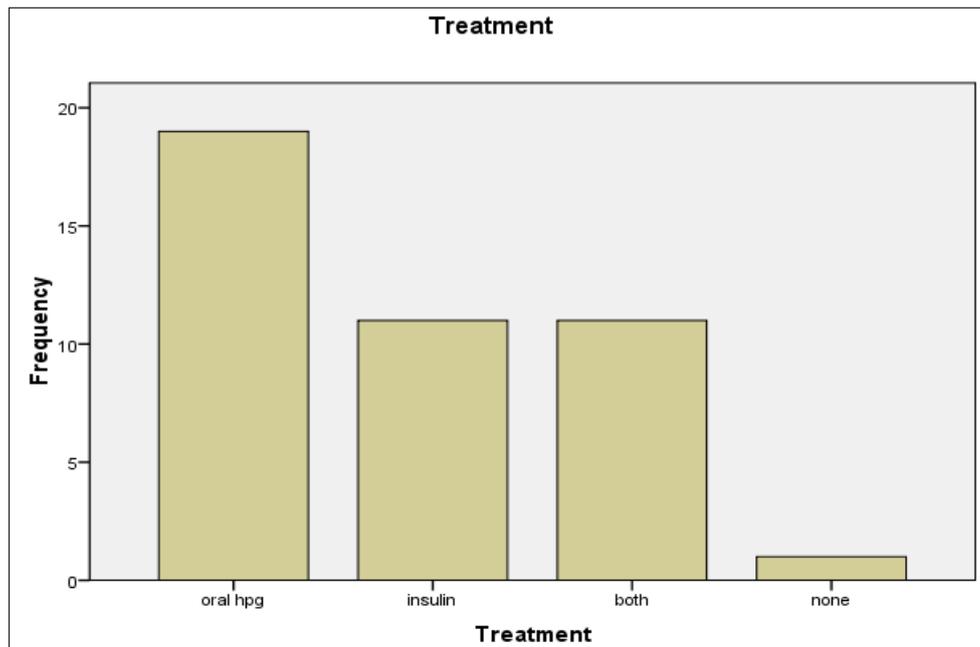


Table 6. Distribution of Study Participants according to Type of Ward Admitted

Ward	N(%)
Cardiac	3(7.1)
Nephro	2(4.8)
Gastro	2(4.8)
Neurology	3(7.1)
Surgery	1(2.4)
Endocrinology	6(14.3)
Medical	21(50.0)
11	2(4.8)
13	2(4.8)
Total	42(100.0)

Table 7. Distribution of Study Participants according to Presence of Co-morbidities

Co-morbidity	N (%)
HTN	20(47.6)
Hypothyroid	2(4.8)
Cardiac disease	4(9.5)

Table 8. Distribution of Study Participants according to Presence of Complications

Complication	n (%)
Present	17(40.5)
Absent	25(59.5)
Total	42(100.0)

Table 9. Distribution of Study Participants according to Presence of Acute Hyperglycemia

Hyperglycemia	n(%)
No	35(83.3)
Yes	7(16.7)
Total	42(100.0)

All patients were treated successfully. All patients were discharged to home after the treatment. No deaths or shifting to other hospitals were seen.

Summary

The highlights of the present study are majority of the patients were in the age group of 50–70 years. 42.9% of the diabetics had duration of diabetes varying between 1 and 5 years. Mean duration of stay was 6.86 days. 45.2% were on oral hypoglycemics. 47.6% of the diabetics had hypertension. 4.8% had hypothyroidism. 9.5% had cardiac disorder. 40.5% of the patients were admitted for one of the microvascular or macrovascular complications. 16.7% of them had uncontrolled glycemic levels. This shows that there is need for early detection and treatment of the diabetics and special care for diabetics.

Conflict of Interest: None

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