

# Spectrum of diseases in a medical ward of a teaching hospital in a developing country

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## ABSTRACT

Communicable and respiratory tract diseases especially chronic obstructive pulmonary diseases are the main reasons of admission in medical ward of low and middle income countries. This is different from the developed countries where non communicable diseases are the main reasons of hospital admission. In developing countries the data of hospital admission are still lacking. Therefore this study will help us to assess the common patterns of diseases admitted in a medical ward, the average length of hospital stay etc. The record of 1040 hospitalized patients in medical ward was analyzed for the period of six months from Jan 2010 to Jun 2010. Patient's medical records were retrieved and data analysis was done to obtain age, sex, common diagnosis, the affected system and the duration of the hospital stay. The data was analyzed by using SPSSV 16. After reviewing the data the most common age of patients being admitted were between 46-65 years (31.5%) followed by more than 65 years (25%) between 26-45 years (21.28%) and less than 25 years (21.28%). Among the admitted patients females were more than the males except in neurolog ward. The most effected system was respiratory (31.73 %),and the most common diagnosis was Chronic obstructive pulmonary diseases (23.17%). The next common system involved was gastroenterology including liver (18.64%) ,genitourinary (12.01%), cardiovascular ( 11.34%), neurology (9.23%), endocrine (4.80%) hematology (2.30%). The cause for hospital admission by infection in different system was (30.08%) The average duration of hospital stay of the patients was less than 7 days. The respiratory diseases and the infectious disease are the most common disease in Nepal. The communicable diseases still hold a greater position, while non communicable diseases are main reasons for admission to the medical wards in developed countries.

**Key words:** Admissions, diagnosis, medical ward, patients.

## Introduction

It is believed that the pattern of medical diseases in developing countries is different than the developed countries. The decision to admit the patients in medical ward is determined by many factors like age, co existing

illness, physical laboratory findings, the ability of oral intake of drugs and the resources available to the patients outside hospital<sup>1</sup> Chronic diseases such as cardiovascular primarily heart disease, stroke, cancer and diabetes are the most common cause of health problem worldwide.<sup>2-3</sup> However the developing countries like ours are still struggling with the

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communicable diseases. Due to lack of awareness of sanitation, lack of good water supply and environment infectious diseases are still the major issues. Infectious diseases are a common cause of hospital admission in developing countries.<sup>4</sup>

In this setting the exact statistics in our countries are lacking. Therefore the objectives of this study are to assess the patterns and prevalence's of diseases, the most common diagnosis and average duration of patient's hospital stay.

### Materials and methods

A retrospective cross-sectional study was conducted from Jan 2010 –Jun 2010 on the patients who were admitted to the medical wards of Kathmandu University Hospital, Dhulikhel. The hospital serves about 4 districts which are east of Kathmandu valley with a very wide catchment area. It is training center for about 60 medical students each year along with other nursing and paramedical students. The hospital is 317 bedded with different specialties like internal medicine, surgery, gynecology and obstetrics, orthopedics, pediatrics, eye, ENT, dermatology. The number of bed allocated to internal medicine department is 75 along with 6 bed in Intensive care unit. The main diagnostic modalities in hospital are routine laboratories investigation, radiology including CT scan, microbiology and histopathology.

All patients admitted in medical ward during the study period as mentioned above were included and no sampling technique was used. The dependent variables in this study were reasons for admissions, the systems involved. The other variables were age, sex and duration of hospital stay. Data collections were done from the medical record department in a structured format sheet after taking permission from institutional review committee. Then the data were analyzed by using SPSS v16.

### Results

A total of 1040 hospitalized medical ward patients during the period of six months were reviewed. The most common age group admitted in medical ward was between 46-65 yrs (31.53%), followed by more than 65yrs (25%), between 26-45yrs (21.28%) and less than 25 yrs were 21.28% (Table 1).

**Table 1: Distribution of hospitalized patient by age group**

Age group	No of patients	Percent
< 25 yrs	227	21.82 %
26 - 45 yrs	221	21.25 %
46 - 65 yrs	328	31.53 %
> 65 yrs	264	25.38 %
Total	1040	100

The most common affected system was respiratory system 31.73% followed by gastrointestinal including liver 18.64%, cardiovascular 11.34%, genitourinary 12.01%, neurology 9.23%, endocrine 4.80% (Table 2).

**Table 2: Distribution of hospitalized patients by affected system.**

System	No	Percent
Cardiovascular	118	11.34
Respiratory	330	31.73
Hematology	24	2.3
Endocrine	50	4.8
Hepatobiliary	42	4.03
Neurology	96	9.23
Gastrointestine	152	14.61
Renal	125	12.01
Rheumatology	1	0.09
Others	102	9.8
Total	1040	100

Chronic obstructive pulmonary diseases is the commonest disease requiring admission (23.17%) followed by Urinary tract Infection, Pneumonias, Poisoning, Enteric fever, acute gastro enteritis, hypertension etc (Table 3).

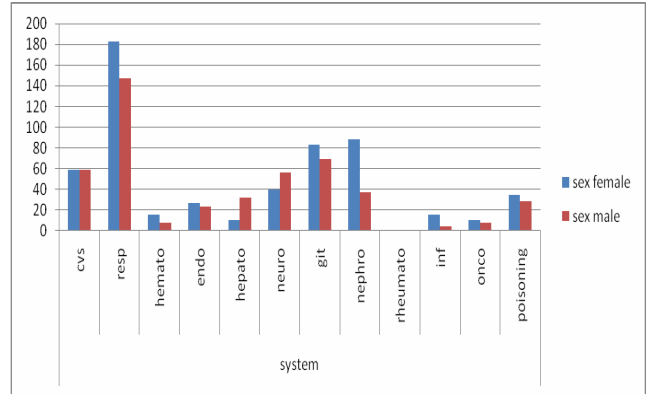
**Table 3: Most common diseases**

Disease	No	Percent
COPD	241	23.17
UTI	101	9.71
Pneumonia	61	5.86
Poisoning	59	5.67
Enteric fever	59	5.67
AGE	56	5.38
HTN	55	5.28
DM	47	4.51
Tuberculosis	36	3.47
Ischemic Heart Disease	25	2.4
<b>Total</b>	<b>740</b>	

Infection accounted for the most admissions (30.08%) which included enteric fever, tuberculosis, pneumonia, viral fever, chicken pox, mumps and acute gastroenteritis. Most systems showed higher frequency of female admission except neurology in which male predominates. In cardiovascular diseases, there were equal admissions (Fig. 1).

The average hospital stay of patients was 4.69 days and 85.28% of the patients stayed for less than 7 days. The longest stay in hospital was for uncontrolled diabetes for which the patient stayed for 39 days.

**Fig. 1: Distribution of hospitalized patient by affected system and sex**



**Table 4: Length of Hospital Stay**

System	0-7 days	8-14 days	15-30 days	> 30 days
Cardiovascular	100	16	2	0
Respiratory	276	45	7	2
Hematology	21	1	2	0
Endocrine	35	9	4	2
Hepatobiliary	30	12	0	0
Neurology	83	10	1	2
Gastrointestine	140	11	1	0
Renal	110	14	1	0
Rheumatology	1	0	0	0
Others	91	6	4	1

## Discussion

It was observed that respiratory tract diseases and infectious diseases were major reasons for medical ward admissions at Kathmandu university hospital. Elderly patients required most admissions (46 to 65 years followed by > 65 Years). These findings is contrast with

findings of Elias A et al which shows the mean age of admission between 21 to 30 years.<sup>5</sup> These findings are also similar with the South African and Nigerian studies which showed that the patient admitted were above 40 years.<sup>6-7</sup>

The most common affected system was respiratory system 31.73%. This is probably due to increased amount of tobacco use and air pollution. In particular, smoking is very common in underdeveloped countries. The annual cigarette consumption has increased in the developing world, tobacco consumption continues to rise at 3.4% in 2002.<sup>8</sup> The reason was aggressive marketing by tobacco companies; delay in implementing antismoking regulations and because of the public perception of risk of smoking is still low.<sup>9</sup> Infectious diseases accounts for 30.8 % of all admission mainly UTI, Pneumonias, enteric fever, Acute gastroenteritis and tuberculosis. These findings are similar with Hussian KP which shows communicable diseases pneumonia 36% and parasites 16%.<sup>10</sup> This may be due to poor socio economic condition, poor hygiene and poor sanitation. However these findings contradicts with findings of Australia. In the Australian study, the most common reason for hospital admission to the medical ward was cardiovascular diseases 29%.<sup>11</sup> In another study, admission to medical ward in Hong Kong were most frequently associated with cardiovascular system which made up 30.3% of all medical cases.<sup>12</sup> These differences in the diseases pattern between these countries may be due to high income, better quality of food, high immunization, better sanitation and living standard.

The average hospital stay of patient in medical ward was less than seven days. These finding are similar with finding of Omer S. which also clearly shows the average hospital stay were less than seven days.<sup>13</sup>

### Conclusions

Nepal is still a developing country where a health care facility to all populations especially in remote areas is limited. The socio-economic status and many human disease are as comparable with African countries. COPD is the most common cause of admission followed by infective diseases such as UTI, pneumonia enteric fever, tuberculosis etc. These common diseases can be prevented by taking anti smoking measures by improving indoor pollution and awareness of people.

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