

Pattern of Diseases with Their Clinical Outcomes: Experience of 124 Cases in Bangladesh

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Abstract Background: The clinical outcomes are very important for different pattern of diseases among the hospital admitted patients. **Objective:** The purpose of the present study was to see the pattern of diseases with their clinical outcomes of hospital admitted patients in the medicine ward at a tertiary care hospital in Dhaka city. **Methodology:** This cross-sectional study was conducted in the Department of Medicine at Dhaka Medical College Hospital, Dhaka, Bangladesh from March 2003 to June 2003 over a period of 16 weeks. The study population comprised of all patients admitted in the selected Medicine wards during the study period irrespective of age and sex. All admitted patients in the selected wards irrespective of age and sex carefully screened out by examining the patients' daily hospital records and discharge certificate at the time of their discharge. The different disease pattern of the admitted patients were recorded. Clinical outcome of diseases were categorized cured, referred or deceased. **Result:** A total number of 124 patients were recruited for this study. Various types of diseases were categorized into 8 groups. Out of 124 respondents 35 (28.2%) patients were suffering from Gastrointestinal and hepatobiliary diseases that topped the list followed by patients with cardiovascular diseases (21.8%). Majority (59.7%) were cured and 15.3% were found to be referred. One fourth of the patients admitted were deceased. Most of the patients (94.4%) had investigations done whereas only a small fraction (5.6%) did not under go any laboratory investigations. **Conclusion:** In conclusion most of the admitted patients in the medicine unit of hospital are suffering from gastrointestinal and hepatobiliary diseases and majority are cured before discharge from the hospital.

Keywords: pattern, diseases, clinical outcomes, medicine ward

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1. Introduction

The Global disease pattern is undergoing major changes [1]. Forecasts envisage morbidity and mortality burdens still dominated primarily by re-emerging and emerging infectious diseases with the beginning of a shift towards non communicable chronic diseases in the countries of the South-East Asia Region like Bangladesh [2]. It should be a great concern for the health planners and the government to provide treatment facilities to all those who are not treated at all, representing 13.1% of all sicknesses, primarily due to paucity of funds at the household level.

Raising the income level of the poor through the provision of gainful employment and other measures, and initiating community health financing projects through the involvement of community in the planning and implementation of the projects, with matching contributions from outside,

would greatly reduce the proportion of no treatment cases among the currently sick persons [3]. The poor, illiterate, the landless class and marginal farmers, the laboring class and the lower professionals constituting a bulk of the population are the worst suffers under the existing system of health care provision. They suffer from the highest rate of morbidity and from the longest duration of sickness with the lowest prospect for recovery. They have also the highest rate of the sicknesses untreated. It is high time that appropriate measures have been taken at the national and local levels to alleviate the sufferings of the poor with respect to health care by drawing up special programs for them on health care, water supply, sanitation, nutrition, education and on generation of income and employment, with the active involvement of the non-government organizations, local governments, politicians, national and local leadership, civil administration and bureaucrats at all levels of all related ministries including the ministry of health and family welfare [4].

The health situation of the South-East Asia Region today and in the future is determined by many factors including aging and geographical distribution of the population, poverty and economic progress, education and literacy levels, and infrastructure, functioning and interventions of the health care system [5]. Along with a slow decline of death rates and gradual increase in life expectancy, the process of epidemiological transition is under way in most countries. Communicable diseases are gradually being replaced by chronic and degenerative conditions which in some countries are becoming the main causes of death and morbidity [6]. Countries of the region are thus bearing the double burden of both communicable and non-communicable diseases. The purpose of the present study was to see the pattern of diseases with their clinical outcomes of hospital admitted patients in the medicine ward at a tertiary care hospital in Dhaka city.

2. Methodology

This was a descriptive cross sectional study. The Dhaka Medical College Hospital was chosen purposively for this study. This tertiary level referral specialized hospital provides emergency, indoor and outdoor patient care. The Department of Medicine constitutes 5 units in which patients are admitted under 5 separate professors. There are 5 general wards, with each ward having 28 beds. For female patients there are two separate wards, each having 28 beds. However, for the convenience, only a selected number of wards had been chosen for data collection. Other reasons for selecting the study place were time and economic constraints, the interest and convenience of the researcher, relatively better co-operation from the selected wards and location of the hospital. The study was conducted over a period of 16 weeks starting from March 2003 to June 2003. First 2 weeks were taken for selection of topics and formulation of hypothesis and objective. Following 4 weeks were utilized for reviewing literature and building of data collection instrument. Data were collected during next 4 weeks. Analysis, compilation and interpretation of data were done by computer during next 3 weeks and last 3 weeks were spent for fresh typing, binding and submission of the dissertation. The study population comprised of all patients admitted in the selected Medicine wards during the study period irrespective of age and sex. Sample size was determined purposively according to the researcher's own convenience. No statistical sampling technique was applied to select sample for the study. All admitted patients in the selected wards irrespective of age and sex carefully screened out by examining the patients'

daily hospital records and discharge certificate at the time of their discharge. All patients who got discharged by DOR (discharge on request) and DORB (discharge on risk bond) were excluded from selecting as sample. One interviewer-administered questionnaire was prepared by the researcher and was checked by the supervisor for data collection. The questionnaire was duly pre-tested and was used. A checklist was used to collect information regarding treatments and clinical outcome of the discharging patients their history and treatment sheet and discharge certificates. By scrutinizing the medical history sheets, interview, observation and after careful consultation with the respective AR (assistant registrar) of the selected wards patients were chosen. The purpose of the study was explained to the respondents prior to collection of data. The collected data were checked and verified to exclude any error or inconsistency and then compiled, tabulated, analyzed and processed with help of SPSS, MS Word and MS Excel software. The important variables were considered for analyzing data to fulfill objectives of the study. Clinical outcome of diseases were categorized for the convenience of the researcher in to three categories which were cured and these patients were discharged after recovery with normal procedure. Excluding those who were discharged on request (DOR) or on risk bond (DORB) before recovering from illness or those who were referred to other places or deceased who expired while admitted.

3. Result

Various types of diseases were categorized into 8 groups. Out of 124 respondents 35 (28.2%) patients were suffering from Gastrointestinal and hepatobiliary diseases that topped the list followed by patients with cardiovascular diseases (21.8%). The relatively low prevalence of respiratory tract diseases probably due to the fact that the study was carried out in the summer (Table 1).

Table 1. Percentage Distribution of Respondents by Their Types of Diseases (n=124)

Types of Disease	Frequency	Percent
Cardiovascular disease	27	21.8
Respiratory tract diseases	10	8.1
Neuro-muscular & endocrine diseases	20	16.1
Gastro-intestinal & hepatobiliary diseases	35	28.2
Infectious diseases	19	15.3
Substance abuse & poisoning	9	7.3
Genito-urinary diseases	3	2.4
Others	1	0.8
Total	124	100.0

Table 2. Distribution of the Respondents by Clinical Outcome In Relation To Their Pattern of disease (n=124)

Types of Disease	Outcome of the Patient			Total
	Cured	Referred	Deceased	
Cardiovascular disease	19(70.4%)	4(14.8%)	4(14.8%)	27(100.0%)
Respiratory tract diseases	8(80.0%)	1(10.0%)	1(10.0%)	10(100.0%)
Neuro-muscular & endocrine diseases	12(60.0%)	8(40.0%)	0(0.0%)	20(100.0%)
Gastro-intestinal & hepatobiliary diseases	23(65.7%)	2(5.7%)	10(28.6%)	35(100.0%)
Infectious diseases	5(26.3%)	0(0.0%)	14(73.7%)	19(100.0%)
Substance abuse & poisoning	3(33.3%)	4(44.4%)	2(22.2%)	9(100.0%)
Genito-urinary diseases	3(100.0%)	0(0.0%)	0(0.0%)	3(100.0%)
Others	1(100.0%)	0(0.0%)	0(0.0%)	1(100.0%)
Total	74(59.7%)	19(15.3%)	31(25.0%)	124(100.0%)

Majority (59.7%) were cured and 15.3% were found to be referred. One fourth of the patients admitted were deceased (Table 2).

Most of the patients (94.4%) had investigations done whereas only a small fraction (5.6%) did not undergo any laboratory investigations. Among the patients investigated most were suffering from diseases of cardiovascular and respiratory, and gastro-intestinal and hepato-biliary system (Table 3).

Table 3. Distribution of Patients who Have Undergone Laboratory Investigations (n=124)

Types of Disease	Investigations Done		Total
	Done	Not done	
Cardiovascular disease	27 (100.0%)	0 (0.0%)	27 (100.0%)
Respiratory tract diseases	10 (100.0%)	0 (0.0%)	10(100.0%)
Neuro-muscular & endocrine diseases	20 (100.0%)	0 (0.0%)	20 (100.0%)
Gastro-intestinal & hepatobiliary diseases	32 (94.4%)	3 (8.6%)	35 (100.0%)
Infectious diseases	18 (94.7%)	1 (5.3%)	19 (100.0%)
Substance abuse & poisoning	6 (66.7%)	3 (33.3%)	9 (100.0%)
Genito-urinary diseases	3 (100.0%)	0 (0.0%)	3 (100.0%)
Others	1 (100.0%)	0 (0.0%)	1 (100.0%)
Total	117 (94.4%)	7 (5.6%)	124 (100.0%)

4. Discussion

Majority of the total population of Dhaka City attends to this hospital when they become sick [6]. As a result, the demand for bed is rising. A second hospital DMCH 2 has been constructed, which has 500 beds and about 2000 to 2500 patients get treatment from the outdoors of the hospital daily [7]. DMCH has almost all the disciplines of modern medical science. The department of medicine (Indoor) comprises of 5 units during the study period and each unit is under a professor comprising of 6 wards. Each ward is consisting of 28 general beds with 5 paying beds.

In this study various types of diseases are categorized into 8 groups. A total number of 124 patients were recruited in this study. Out of 124 respondents 35(28.2%) patients are suffering from Gastro-intestinal and hepatobiliary diseases that are topped the list followed by patients with cardiovascular diseases (21.8%). The relatively low prevalence of respiratory tract diseases is probably due to the fact that the study has been carried out in the summer season.

Regarding the clinical outcome of diseases majority (59.7%) were cured and 15.3% were found to be referred. One fourth of the patients admitted are deceased. This depicts high mortality rate in DMCH. The mortality rate is highest among the patients of infectious diseases (73.3%) on the other hand majority of the patients suffering from respiratory tract diseases (80.0%) have been cured. Most of the patients (94.4%) have advised for investigations whereas only a small fraction (5.6%) are undergone any laboratory investigations. Among the investigated patients most are suffering from diseases of cardiovascular and respiratory, and gastro-intestinal and hepato-biliary system. In the community the pattern of diseases is not usually constant. It is said that every decade produces its own pattern of diseases. In 1900, the leading causes of death

were pneumonia and influenza (11.8%), tuberculosis (11.3%), diarrhea and enteritis (8.3%), and heart diseases (8%), CVD (6.2%), and accidents (4.2%). After 80 years, the trend has been changed dramatically like heart disease (38.3%), Cancer (22.0%), CVD (8.0%), accident (4.8%), pneumonia and influenza (2.5%). This proves that communicable diseases have declined and have been replaced by non-communicable diseases [8].

Based on available information WHO estimates that about one-third are due to infectious and parasitic diseases such as acute lower respiratory diseases, tuberculosis, diarrhea, HIV/AIDS and malaria [8]; 29.0% cases are due to circulatory diseases such as coronary heart disease and cerebrovascular diseases and about 12 cases are due to cancers [9]. While deaths due to circulatory diseases has been declined from 51.0% to 46.0% of total deaths in the developed world, they have been increased from 16.0% to 24.0% of total deaths in the developing world [10]. Cancer deaths increased from 6.0% to 9.0% of total deaths in the developing world but they formed a constant proportion of 21.0% of total deaths in the developed world [11]. Infectious and parasitic diseases decreased from 5.0% to 1.0% of total deaths in the developed world and from 45% to 43% of total deaths in the developing world [12]. This confirms earlier findings that non-communicable diseases are emerging as a major killer in the developing countries does as well.

It is anticipated that in the next two decades a considerable change in the health needs of the people of the world will pose serious challenges to the health care systems, including the allocation of resources [13]. The considerable gaps in the availability of data in many countries have also become a big handicap in assessing national priorities. To bridge this gap, researchers at the Harvard School of Public Health and WHO with the assistance of over 100 collaborations from around the world, produced a comprehensive set of estimates for all estimates of patterns of mortality and disability from diseases and injuries for all regions of the world with projections to the year 2020 [14]. This five-year effort resulted in the production of a series of publications on The Global Burden of Disease and Injury (GBD) which provides policy makers with their first comprehensive picture of the world's current and future health needs.

The current pattern of diseases among the patients attending static health facilities and their clinical outcome reflects the morbidity and mortality pattern in the community concerned [10]. It also indicates the quality of operational management in health facilities. Study of the clinical outcome of admitted patients reflects the effectiveness of treatment too. Requirements for different types of drugs and the mode of their supply by periods of time can also be determined on the basis of disease profiles [9].

It is quite apparent that there are major changes in the ranking order [15]. Thus, while lower respiratory infections, diarrhoeal diseases and conditions arising during the perinatal period have occupied the first three positions in the rank order of disease burden for 15 leading causes globally, they are relegated to 6th, 9th and 11th positions respectively in the rank order according to the projections made for the year 2020 [16]. On the other hand, non-communicable diseases, such as ischaemic heart

disease, unipolar major depression and cerebrovascular diseases, are projected to occupy the 1st, 2nd, and 4th positions respectively in 2020. Road traffic accidents will figure prominently in the global disease burden rising from 9th position in 1990 to 3rd rank in 2020 [17]. Tuberculosis will maintain its rank in 2020 too, emphasizing its continued threat, especially to the young adults in the coming decades; furthermore, specific diseases like measles and malaria are not expected to figure prominently as leading causes of the global disease burden [18].

5. Conclusion

In conclusion most of the admitted patients in the medicine unit of hospital are suffering from gastrointestinal and hepatobiliary diseases followed by cardiovascular diseases and Neuro-muscular & endocrine diseases. Furthermore, majority are cured before discharge from the hospital. It has been recommended that a large scale study should be conducted in multicenter basis.

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