



## Original Article

# Socio-demographic Characteristics of Patients admitted in the Medicine ward at a Tertiary Care Hospital in Dhaka City

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### Abstract

**Background:** Patients with varied socio-economic condition are admitted in the medicine ward for seeking treatment. **Objective:** The purpose of the present study was to see the socio-demographic characteristics 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 over a period of 16 weeks starting from March 2003 to June 2003. 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 details of socio-demographic characteristics of the patients were recorded. **Result:** A total number of 124 patients were recruited for this study. The mean age with SD was 42.18±20.51 years with minimum of 13 years and maximum of 84 years. Male (77.4%) was predominant than female (22.6%). Majority were Muslims (95.2%). Major portions of the patients (31.5%) were businessmen. The respondents having secondary level education were the highest number of patients (35.5%). The mean income with SD was 5210±2966.24 with the minimum of 1000 and maximum of 17000 taka. **Conclusion:** In conclusion middle age adult male Muslim are the most commonly admitted in the hospital. [*Journal of Science Foundation, July 2020;18(2):54-61*]

**Keywords:** Socio-demographic characteristics; indoor patients; medicine ward

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## Introduction

The pattern of diseases among the patients attending the static health facilities generally reflects the morbidity pattern in the community concerned (Monasta et al., 2018). On the other hand, distribution of

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diseases as well as their clinical outcome among the admitted patients in a large health care facility like Dhaka Medical College Hospital, which is a tertiary level public hospital as well as a central level referral center, may provide some ideas about the current situation of health care facilities in the country (Wamwana et al., 2006). Against the global commitment of Health for all, governments in the developing countries are being increasingly concerned with the gaps in the health service provisions for their populations. A proper health delivery system cannot be developed without the basic information of sickness and disease pattern by socioeconomic and demographic variables and by rural or urban residence of the population (Mokdad et al., 2019).

It is extremely important for the health planners to know the patterns of various types of diseases and their clinical outcomes by socio-economic groups in order to be able to capitalize the existing supply provisions especially in the Government sectors (Dicker et al., 2018). Understanding disease pattern as well as the morbidity and mortality profile in different strata of the community is very important for planning and delivery of appropriate health services, especially for the poor. Determining the morbidity pattern may reflect changes in the burden of disease in the community and thus can play the role of an epidemiological tool (Jeemon et al., 2017).

Although there had been some improvement in mortality and morbidity in recent years, Bangladesh was still characterized as high mortality country with a very high infant and child mortality (Kadel 2018). Previous studies indicated that morbidity was still very high in general and specially among children, women and among the poor and illiterate section of the people; the duration of sickness is long with its consequent implication on work days lost (Afshin et al., 2019).

A high proportion of Bangladesh population still suffers from communicable and infectious diseases that can be largely controlled through public health measures of water supply, sanitation, EPI, ORT and distribution of vitamin A capsules backed by intensive health education programs (Bloom et al., 2012). The avowed objective of health for all by the year 2000 will remain far from being realized unless special attention is directed on a priority basis for health education and the prevention and control of endemic diseases, and other measures under the concept of primary health care. As of now only 12.5% of all the sicknesses are treated by the government medical centers (Marcucci et al., 2010). In all 31.8% of the sicknesses are treated by qualified doctors and non-government clinics, which are very expensive and are also mostly urban based. This present study was undertaken to see the socio-demographic characteristics hospital admitted patients in the medicine ward at a tertiary care hospital in Dhaka city.

## **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 research report. 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. Tables were made as per requirements of the study with the help the abovementioned software programs and interpretation was made accordingly.

## Result

In this study both the age groups of 12-24 and 45-64 years constitutes the highest number of patients, i.e. 30.6% each. Diseases related to cardiovascular and respiratory systems were found to occur more in the older age group, i.e. 45-64 and 65-84 years group respectively. But the younger age group 12-24 years were found to suffer from diseases of neuro-muscular and endocrine system as well as infectious diseases more than the older age groups (Table 1).

**Table 1: Distribution of Respondents by disease and age (n=124)**

Types of Disease	Age of the Respondent (Years)				Total
	12 to 24	25 to 44	45 to 64	65 to 84	
Cardiovascular Disease	1(3.7%)	9(33.3%)	11(40.7%)	6(22.2%)	27(100.0%)
Respiratory Tract Diseases	0(0.0%)	3(30.0%)	3(30.0%)	4(40.0%)	10(100.0%)
Neuro-Muscular & Endocrine Diseases	9(45.0%)	4(20.0%)	3(15.0%)	4(20.0%)	20(100.0%)
Gastro-Intestinal & Hepatobiliary Diseases	12(34.3%)	4(11.4%)	8(22.9%)	11(31.4%)	35(100.0%)
Infectious Diseases	14(73.7%)	2(10.5%)	3(15.8%)	0(0.0%)	19(100.0%)
Substance Abuse & Poisoning	2(22.2%)	0(0.0%)	7(77.8%)	0(0.0%)	9(100.0%)
Genito-Urinary Diseases	0(0.0%)	0(0.0%)	3(100.0%)	0(0.0%)	3(100.0%)
Others	0(0.0%)	0(0.0%)	0(0.0%)	1(100.0%)	1(100.0%)
<b>Total</b>	<b>38(30.6%)</b>	<b>22(17.7%)</b>	<b>38(30.6%)</b>	<b>26(21.0%)</b>	<b>124((100.0%)</b>

Mean age=42.18 years; SD=±20.51 years; Min=13 years; Max=84 years

Among 124 patients the male patients (77.4%) had an over whelming majority on the female patients (22.6%). On the other hand female preponderance was observed in case of genito-urinary and infectious diseases (Table 2).

**Table 2: Distribution of the respondents by sex in relation to their types of diseases (n=124)**

Types of Disease	Sex of the Respondent		Total
	Male	Female	
Cardiovascular Disease	27(100.0%)	0(0.0%)	27(100.0%)
Respiratory Tract Diseases	7(70.0%)	3(30.0%)	10(100.0%)
Neuro-Muscular & Endocrine Diseases	17(85.0%)	3(15.0%)	20(100.0%)
Gastro-Intestinal & Hepatobiliary Diseases	26(74.3%)	9(25.7%)	35(100.0%)
Infectious Diseases	9(47.4%)	10(52.6%)	19(100.0%)
Substance Abuse & Poisoning	9(100.0%)	0(0.0%)	9(100.0%)
Genito-Urinary Diseases	0(0.0%)	3(100.0%)	3(100.0%)
Others	1(100.0%)	0(0.0%)	1(100.0%)
<b>Total</b>	<b>96(77.4%)</b>	<b>28(22.6%)</b>	<b>124((100.0%)</b>

Out of 124 respondents, majority i.e. 118 (95.2%) were Muslims and only 6 (4.8%) were Hindus. No

patients of other religions were found during the study period (Table 3).

**Table 3: Distribution of the Respondents by Religion (n=124)**

Types of Disease	Religion		Total
	Islam	Hindu	
Cardiovascular Disease	25(92.6%)	2(7.4%)	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	31(88.6%)	4(11.4%)	35(100.0%)
Infectious Diseases	19(100.0%)	0(0.0%)	19(100.0%)
Substance Abuse & Poisoning	9(100.0%)	0(0.0%)	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	118(95.2%)	6(4.8%)	124((100.0%)

The distribution of respondents according to their occupation varied widely. Major portions of the patients (31.5%) were businessmen, followed by housewives and service-holders. Significant numbers of respondents were in the others group (21.8%) who were mostly students (Table 4).

**Table 4: Distribution of the Respondents by Their Occupation (n=124)**

Types of Disease	Occupation						Total
	Business man	Service holder	Day Laborer	Farmer	House wife	Others	
Cardiovascular disease	15(55.6%)	8(29.6%)	0(0.0%)	0(0.0%)	0(0.0%)	4(14.8%)	27(100.0%)
Respiratory Tract Diseases	3(30.0%)	0(0.0%)	3(30.0%)	1(10.0%)	3(30.0%)	0(0.0%)	10(100.0%)
Neuro-Muscular & Endocrine Diseases	0(0.0%)	8(40.0%)	0(0.0%)	4(20.0%)	3(15.0%)	5(25.0%)	20(100.0%)
Gastro-Intestinal & Hepatobiliary Diseases	10(28.6%)	1(2.9%)	6(17.1%)	2(5.7%)	6(17.1%)	10(28.6%)	35(100.0%)
Infectious Diseases	5(26.3%)	0(0.0%)	0(0.0%)	0(0.0%)	6(31.6%)	8(42.1%)	19(100.0%)
Substance Abuse & Poisoning	6(66.7%)	2(22.2%)	1(11.1%)	0(0.0%)	0(0.0%)	0(0.0%)	9(100.0%)
Genito-urinary diseases	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	3(100.0%)	0(0.0%)	3(100.0%)
Others	0(0.0%)	0(0.0%)	0(0.0%)	1(100.0%)	1(100.0%)	1(100.0%)	1(100.0%)
Total	39(31.5%)	19(15.3%)	10(8.1%)	8(6.5%)	21(16.9%)	27(21.8%)	124((100.0%)

Out of 124 respondents, 70(56.5%) were married and 37(29.8%) were unmarried, whereas 17(13.7%) were widowed. Although married patients were found to suffer from most diseases more than others do but the unmarried patients seemed to suffer from neuro-muscular and endocrine diseases more. Cardiovascular disease were more common in married patients which was 19(70.4%) cases. However, neuro-muscular & endocrine diseases were more common in unmarried patients which was 13(65.0%) cases. Furthermore, gastro-intestinal & hepatobiliary diseases were more common in married patients 20(57.1%) cases (Table

5).

**Table 5: Distribution of the Respondents by Marital Status (n=124)**

Types of Disease	Marital Status			Total
	Married	Unmarried	Widow/ Widower	
Cardiovascular disease	19(70.4%)	4(14.8%)	4(14.8%)	27(100.0%)
Respiratory tract diseases	4(40.0%)	3(30.0%)	3(30.0%)	10(100.0%)
Neuro-muscular & endocrine diseases	7(35.0%)	13(65.0%)	0(0.0%)	20(100.0%)
Gastro-intestinal & hepatobiliary diseases	20(57.1%)	9(25.7%)	6(17.1%)	35(100.0%)
Infectious diseases	11(57.9%)	8(42.1)	0(0.0%)	19(100.0%)
Substance abuse & poisoning	9(100.0%)	0(0.0%)	0(0.0%)	9(100.0%)
Genito-urinary diseases	0(0.0%)	0(0.0%)	3(100.0%)	3(100.0%)
Others	0(0.0%)	0(0.0%)	1(100.0%)	1(100.0%)
Total	70(56.5%)	37(29.8%)	17(13.7%)	124((100.0%)

The distribution of the respondents regarding their educational status. The respondents having secondary level education were the highest number of patients (35.5%), followed by those having primary level education (33.9%). A significant number of patients were illiterate (16.9%), whereas a patients with education level at and above higher secondary level were only 13.7% of the study population (Table 6).

**Table 6: Distribution of the Respondents by Educational level (n=124)**

Types of Disease	Educational level				Total
	Illiterate	Primary	Secondary	Higher Secondary and above	
Cardiovascular disease	3(11.1%)	5(18.5%)	9(33.3%)	10(37.0%)	27(100.0%)
Respiratory tract diseases	6(60.0%)	2(20.0%)	2(20.0%)	0(0.0%)	10(100.0%)
Neuro-muscular & endocrine diseases	3(15.0%)	7(35.0%)	10(50.0%)	0(0.0%)	20(100.0%)
Gastro-intestinal & hepatobiliary diseases	7(20.0%)	15(42.9%)	8(22.9%)	5(14.3%)	35(100.0%)
Infectious diseases	0(0.0%)	5(26.3%)	12(63.2%)	2(10.5%)	19(100.0%)
Substance abuse & poisoning	2(22.2%)	4(44.4%)	3(33.3%)	0(0.0%)	9(100.0%)
Genito-urinary diseases	0(0.0%)	3(100.0%)	0(0.0%)	0(0.0%)	3(100.0%)
Others	0(0.0%)	1(100.0%)	0(0.0%)	0(0.0%)	1(100.0%)
Total	21(16.9%)	42(33.9%)	44(35.5%)	17(13.7%)	124((100.0%)

The respondents were grouped according to their total monthly family income. More than half of the respondents 52.4% belonged to the lowest income group followed by the group with income of Tk. 5000.00-10000.00 (42.7%). Only two patients 1.6% belonged to the highest income group of Tk. 15000.00 and above. Most of the patients 95.1percent (52.4+42.7) were from lower income group (Table 7).

**Table 7: Distribution of the Respondents regarding their Monthly Family Income (n=124)**

Types of Disease	Monthly Family income				Total
	1000-5000	5001-10000	10001-15000	15001 & above	
Cardiovascular disease	9(33.3%)	18(66.7%)	0(0.0%)	0(0.0%)	27(100.0%)
Respiratory tract diseases	9(90.0%)	1(10.0%)	0(0.0%)	0(0.0%)	10(100.0%)

Neuro-muscular & endocrine diseases	14(70.0%)	6(30.0%)	0(0.0%)	0(0.0%)	20(100.0%)
Gastro-intestinal & hepatobiliary diseases	18(51.4%)	15(42.9%)	0(0.0%)	2(5.7%)	35(100.0%)
Infectious diseases	5(26.3%)	10(52.6%)	4(21.1%)	0(0.0%)	19(100.0%)
Substance abuse & poisoning	7(77.8%)	2(22.2%)	0(0.0%)	0(0.0%)	9(100.0%)
Genito-urinary diseases	3(100.0%)	0(0.0%)	0(0.0%)	0(0.0%)	3(100.0%)
Others	0(0.0%)	1(100.0%)	0(0.0%)	0(0.0%)	1(100.0%)
Total	65(52.4%)	53(42.7%)	4(3.2%)	2(1.6%)	124((100.0%)

Mean= Tk. 5210, SD. =±2966.24, Min.= Tk. 1000.00, Max.= Tk. 17000.00

## Discussion

Hospitals play a vital role in the health sector of Bangladesh. It has been estimated that approximately 60% of all public allocation to health is spent on hospital services (Afshin et al., 2019). The Government provides hospital services from the national to the upazilla level and in only very few cases up to union level. There are more than 30 Government medical college hospitals in Bangladesh with number of beds ranging 250 to 1050 in each hospitals (Lawes et al., 2008). These hospitals act as tertiary level referral hospital providing preventive, curative and rehabilitative services through outdoor and indoor services including all other facilities like pathological, radiological, laboratory and so one. Dhaka Medical College Hospital is the largest tertiary level hospital in our country. It was established in 1946 as a treatment center for the British Army and housed in a building, which was constructed as the secretariat of the then East Bengal. Initially the bed strength was 500. However, the patient load of this hospital is very high because patients are referred from every corner of this country to this hospital.

This present study was conducted at the medicine wards of Dhaka Medical College Hospital, specialized tertiary level referral hospital. The study was a cross sectional descriptive type of study. The study population was all the medicine patients admitted in the selected wards of the medicine department of DMCH from April 2003 to June 2003. Both the age groups of 12-24 and 45-64 years constitutes the highest number of patients, i.e. 30.6% each. Diseases related to cardiovascular and respiratory systems were found to occur more in the older age group which was 65-84 years group respectively. However, the younger age group 12 to 24 years were found to suffer from diseases of neuro-muscular and endocrine system as well as infectious diseases more than the older age groups.

The male patients (77.4%) had an overwhelming majority on the female patients (22.6%). Again majority of the male patients suffered from cardiovascular diseases, gastrointestinal and hepatobiliary diseases. On the other hand female preponderance was observed in case of genito-urinary and infectious diseases. Out of 124 respondents, majority i.e. 118 (95.2%) were Muslims and only 6 (4.8%) were Hindus. No patients of other religions were found during the study period. The distribution of respondents according to their occupation varied widely. Major portions of the patients (31.5%) were businessmen, followed by housewives and service-holders. Significant numbers of respondents were in the others group (21.8%) who were mostly students.

Out of 124 respondents, 70(56.5%) were married and 37(29.8%) were unmarried, whereas 17(13.7%) were widowed. Although married patients were found to suffer from most diseases more than others do but the unmarried patients seemed to suffer from neuro-muscular and endocrine diseases more. The distribution of the respondents regarding their educational status showed that the respondents having secondary level education were the highest number of patients (35.5%), followed by those having primary level education (33.9%). A significant number of patients were illiterate (16.9%), whereas a patients with education level at and above higher secondary level were only 13.7% of the study population. This result indicates that patients with all levels of education are admitted in the hospital.

The respondents were grouped according to their total monthly family income. More than half of the respondents 52.4% belonged to the lowest income group followed by the group with income of Tk. 5000.00-

10000.00 (42.7%). Only two patients 1.6% belonged to the highest income group of Tk. 15000.00 and above. Most of the patients 95.1% were from lower income group. Contrary to the general belief in the western world that Bangladesh is a homogenous society, there are wide variations in the percapita income and other socioeconomic characteristics (Whiteford et al., 2013). In this context, it has been proposed in the study to investigate into socioeconomic variations in sicknesses, diseases, treatments and medical costs in developing countries like Bangladesh (Feigin et al., 2016; Ferrari et al., 2013). The findings of the study would have implications on differential access to modern health care provisions and will bear on the equity considerations in health care services (Pileggi et al., 2004).

In Bangladesh despite the poor economy, low socioeconomic status of women, high infant mortality rate (IMR), high value of children for economic security there is 45.0% decline in total Fertility Rate (TFR) in the last 10 years period from 1980-85 to 1990-95 (IEDCR 2000). With declining fertility and death rates and increasing life expectancy a demographic transition is sweeping through Bangladesh. An epidemiological transition is also taking place due to decrease in death rates, increased life expectancy and rapid changes in life style (Yusuf et al., 2007). As a result there are accumulations of causes that are giving rise to maturity onset diseases and diseases of affluence, such as cardiovascular, neurological, metabolic, degenerative disorders and so on. Urbanization, industrialization, population mobility cause increased road traffic accidents, injuries, poisoning, suicides, homicides and mental disorders (Ahmed et al., 1999). These are becoming important causes of morbidity and mortality in Bangladesh. Bangladesh therefore, is facing the double burden of communicable and non-communicable diseases.

## Conclusion

In conclusion the most common age group of admitted patients are middle aged persons. Furthermore, male is predominant than female. Muslim are the most religion of the admitted patients. Secondary level education are the highest number of patients followed by those having primary level education who are commonly admitted in the hospital. Further large scale multicentre study countrywide should be conducted to real scenario.

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