

## A study on out-patient department (OPD) of selected public hospitals in Dhaka city

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### Abstract

It has become essential for healthcare providers to understand and measure structure, process and outcome of OPD service and its gaps. So that any perceived gaps in delivery of service is identified and suitably addressed. A study was conducted at a Public hospital, Dhaka to ascertain any service gaps between structure, process and outcome in respect of the hospital outpatient department (OPD) services. A cross-sectional study was conducted to assess the status of outpatient department of Public hospital by designing a checklist, using the Indian Public Health Standard (IPHS) and Standardization of Medical Equipment in Bangladesh as the survey statement. The checklist has been empirically evaluated in the hospital environment and has been shown as a reliable and valid instrument in that setting. The checklist was designed to measure OPD services about service provided using various service elements, using a qualitative, structured checklist by direct observation. All the survey items were completed by either the outpatient department or their physical facilities. The study on aspect shows structure in OPD that waiting area in the hospital is not earmarked and do not have separate toilet for female patients. Laboratory and equipment that were present in 90%, 64% were present in support service areas. Environmental consideration were present in 55% but do not have facilities for drinking water, Manpower in OPD were available according to authorized in the hospital. Total No. of patients were 17,401 from 1st March to 31st May, 2019. Patients per doctor in Public hospital 29:1. The study concludes that significant gaps in structure, process and outcome existed in the delivery of the hospital OPD services, which need to be addressed by focused improved efforts by the hospital management.

**Keywords:** out-patient department, hospital, structure, process, outcome, health care, manpower, equipment, workload

### Introduction

Outpatient department (OPD) is the first point of contact of the hospital with patients. The focus of the health care delivery has been towards also called ambulatory care. An outpatient department provides primary as well as comprehensive health care for patients who come for diagnosis, treatment or follow up care. An appropriate OPD is called the "Shop Window" of a hospital, therefore must meet the requirement of organization it houses-Organization must be defined in terms of policy and procedure as well as capacity. Excess workload may affect quality of care therefore community should offer service they afford and provide. Easy entrance: Preferable at ground level with parking facility. Closeness matrix: Easy access from OPD, ICU, OT, Radio Imaging, Lab, Pharmacy<sup>[1]</sup>. When hospitals did not exist, outpatient services provide by an institution called "Dispensary" run by government, local bodies and other organizations, but lacked of backing of supportive diagnostic services. The beginning of the current century saw the outpatient services progressively becoming and integral part of hospitals. In many western countries, general care is given by private practitioners and all hospitals do not have outpatient departments<sup>[2]</sup>. In India, concept of private practitioners as well as outpatient services in hospitals. To focus in medical care has to considerable extent be shifted from entirely inpatient-oriented to the outpatient-oriented service. As administration will be needed if a hospital is to fulfill the above requirements. Many of the services will be in, or associated with the outpatient department. For instance, it may be thought desirable for medical officer of health or the head of the department of preventive medicine

to have an office in the hospital. An important role is played by the outpatient department of the hospital<sup>[3]</sup>.

A good consulting out patient department with diagnostic facilities may greatly reduce the number of admissions of the hospital. Similarly, hospitals provided with a casualty station or an observation ward in the outpatient department may avoid many unnecessary admissions<sup>[4]</sup>. The OPD is interacts with the surrounding area, efficient outpatient produce a favorable public image<sup>[5]</sup>. There are various problem faced by patient in OPD e.g. over-crowding, delay in consultation, lack of proper guidance etc. These are the Minimize with optimum utility of available physical facilities in OPD services and appropriate process of health care in outpatient department<sup>[6]</sup>.

### Justification of the study

OPD is the shop window of a hospital. The service at OPD greatly influence the satisfaction of patient and also the medical care. The design of OPD depends on the scheduling of consultation, availability of medical staff, number of referrals and hospital load. A hospital department where patients receive diagnosis and/or treatment but do not stay overnight. It is a part of the hospital with allotted physical facilities with regulatory scheduled hours, to provide care for patient who are not registered as inpatients. The productivity of OPD depends on the availability of adequate facility, equipment, Manpower in OPD. Appropriate design also influence the function of OPD<sup>[5]</sup>. The outpatient department has functional and administrative links with the hospital of which it is a part<sup>[6]</sup>. During planning a measure of adaptability has to be incorporated in the internal

arrangements and a substantial capacity for examination must be considered [7]. It is the first point of contact between the hospital and the community hence, substantial deliberation for the planning and designing of an OPD is a must. The OPD are becoming more and more important [8]. Appropriate OPD design is Closely required space / rooms in: Entrance–Dedicated/ separate, well-marked with lighting, reception area and lobby, information desk, medicine store, treatment room, nurses duty room, observation ward, laboratory, pharmacy, X-ray, ECG, USG and also required telephone, bank, police room. tea shop etc [9].

There is a critical need to established an effective and timely referral system to channelized elderly patients to the public sector and introduce a much- needed preventive health care in outpatient department. Now a day's science and technology are going advance day by day [10]. Medical science also changes rapidly and it plays an important role for promotion of health and prevention of disease especially in OPD services. So there is need to good control and keeping a standard level of outpatient department. IN Bangladesh, very few studies have been conducted to assess the appropriateness of structure of OPD in various hospital. Therefore, this study was undertaken to explore the appropriate design of OPD as well as impact on well productivity and patients' satisfaction [11].

### Research question

What is the status of outpatient department (OPD) in selected public hospital in Dhaka city?

### Study objectives

#### General objective

To assess the status of outpatient department (OPD) in selected Public hospital in Dhaka city.

#### Specific objectives

1. To find out the structure available in OPD.
2. To identify the status of equipment in OPD.
3. To determine the manpower available in OPD.
4. To assess the process of health care delivery in OPD.
5. To determine the workload of various components of OPD.

### List of variables

#### Physical facilities

- Structure
- Space
- Furniture
- Fixture
- Equipment
- Manpower
- Others

#### Process

- Registration process
- Timings
- Policy
- Procedure
- Communication
- Opening time
- Closing time
- Waiting time for consultation

### Workload

- Number of patients
- Type of patients
- Type of services

### Research Methodology

#### Study Design

The study was conducted as cross- sectional study.

#### Study area

This study was conducted at the outpatient department in Public hospital that is Located in Dhaka city.

#### Selection criteria

##### Inclusion criteria

Publicly funded hospitals in Dhaka city.

##### Exclusion criteria

Hospitals which have less than 100-200 beds.

#### Study period and duration

Study duration was four months from 1<sup>st</sup>March to 30<sup>th</sup> June, 2019.

#### Sampling technique

List of hospitals were collected from DG health, Ministry of Health and Family Planning and Ministry of Railway. Then hospitals which have 100-200 beds were selected from the list of hospitals. One Public Hospital was randomly selected from the list of Public hospitals.

#### Data collection method and instruments

- An observation checklist according to Indian Patient Health Standard (IPHS) and Standardization of medical equipment in Bangladesh were made for collection of data, then it was pretested in a hospital other than study hospitals.
- Data were collected by physical observation and hospital documents.
- The data were verified by face to face interview with concerned authority.

#### Data management

The collected data were checked for their completeness and correctness in order to exclude missing or inconsistent data. Corrected data were entered in to computer system and analyzed.

#### Data analysis

Data were analyzed by Micro soft excel, data were analyzed by simple frequency distribution. Data were presented by graphs and tables.

#### Ethical Issues

- Approval was taken from the ethical review committee of State University of Bangladesh.
- Verbal Permission were obtained from a concerned Hospital authorities before collection of data. Privacy and Confidentiality were maintained strictly.

#### Results

A cross-sectional study was conducted in selected public hospital on service facilities at out-patient department. The finding of the study have been presented as follows

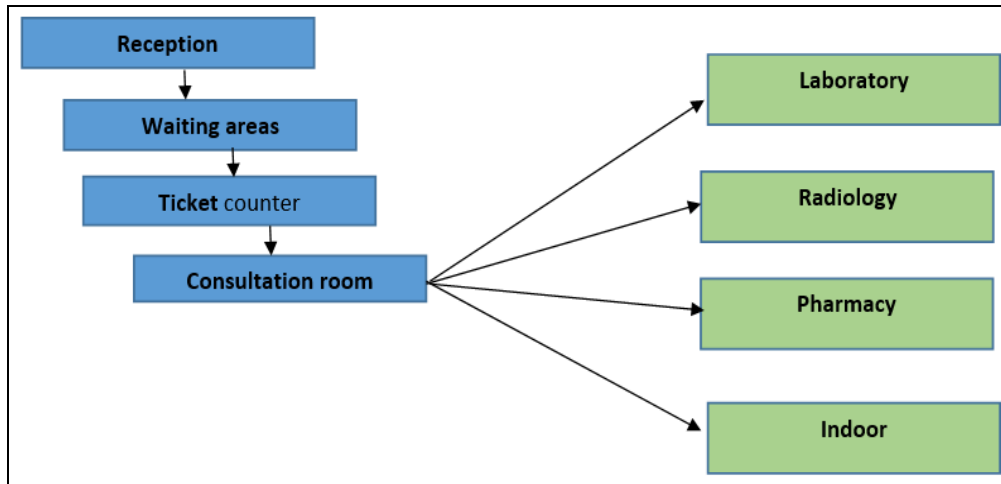


Fig 1: Process of Health care delivery in OPD

Table 1: Study on structures in OPD

	Structure in OPD:	Public Hospital of Dhaka City, Bed: 100-200	
		Yes	No
1.	Main entrance is easily identifiable and well lit.	yes	
2.	Circulatory space for movement of traffic including trolley and wheel chair.	yes	
3.	Ramp	yes	
4.	Adequacy of parking space	yes	
5.	Waiting area is ear marked		No
6.	Separate toilet for both sexes were there		No
7.	The facility is well fenced to guard against entry of animal	yes	
8.	Availability of room / space in OPD	Yes	

The study on structural aspect shows that waiting area in the hospital is not earmarked and do not have separate toilet for female patients.

Table 2: Distribution of Structure in OPD

Structure in OPD	Frequency	Percentage (%)
Yes	06	75
No	02	25
Total	08	100

Table shows that among the structure in OPD were present 75% and 25% were absent.

Table 3: Basic furniture required in a consultation room

	Furniture:	Available	Required in a consultation room
1.	Examination table	01	01
2.	Instrument trolley	01	01
3.	Desk	01	01
4.	Chair (for consultation)	01	01
5.	Minimum chair for patients/visitors	02	02

Table shows that among the furniture was available in a consultation room.

Table 4: Study on Laboratory and equipment

	Section	Name of equipment	Authorized Qty / Unit	Available	
				Yes	No
1.	Laboratory/ Pathology	Microscope, Binocular	2	Yes	
2.		Analyzer, chemistry, semi-automatic	1	Yes	
3.		Colorimeter, digital/analog	1		No
4.		Micropipette, 5-50	1	Yes	
5.		Micropipette, 10-100	1	Yes	
6.		Centrifuge, 12 holes	2	Yes	
7.		Water bath, digital, 10 liters	1		No
8.			Authorized Qty / Unit	Yes	No
9.	Emergency & OPD	ECG Machine, 6 channel	1	yes	
10.		Glucometer	1	yes	
11.		Ventilator, Transport	1		No
12.		Suction machine, electric	1	yes	
13.		Gas cylinder, Oxygen	1	yes	
14.		Flow meter with accessories	1	yes	
15.		Nebulizer	1	yes	

16.		Patient Trolley	1	yes	
17.		Sphygmomanometer, aneroid	1	yes	
18.		Stethoscope	1	yes	
19.		Thermometer	1	yes	

	Emergency & OPD	Name of equipment	Authorized Qty / Unit	Available
20.		View Box for X-ray Film	1	Yes
21.		Cabinet, Medicine	1	Yes
22.		Height & Weight Measuring scale	1	Yes
23.	Dentistry OPD	Dental unit	1	Yes
24.		Sphygmomanometer, aneroid	1	Yes
25.		Stethoscope	1	Yes
26.		Air compressor	1	Yes
27.		Ultrasonic scaler	1	Yes
28.		Micro-motor Machine	1	Yes
29.		Light Cure Machine	1	Yes

Table shows that among the laboratory & equipment items were 29, that were present in 26 and were absent in 03 items.

**Table 5:** Distribution of Laboratory and equipment

Laboratory and equipment	Distribution of frequency	Percentage (%)
Yes	26	90
No	03	10
Total	29	100

Table shows that among the laboratory and equipment were present in 90% and 10% were absent.

**Table 6:** Study on support service areas in OPD

	Support service areas:	Yes	No
1.	Information cell	Yes	
2.	Housekeeping is present	Yes	
3.	There is availability of electricity with identified alternative sources.	Yes	
4.	There is availability of water supply	Yes	
5.	Sterilization room		No
6.	Pharmacy	Yes	
7.	Dressing room	Yes	
8.	Injection room		No
9.	X- Ray facility	Yes	
10.	Observation patients ward		No
11.	Store room (For drugs, linen & equipment)	Yes	
12.	There is at least one ambulance	Yes	
13.	Periodic Training programs on the subjects of waste management, infection control, communication etc are carried out.		No
14.	Arrangement for fire safety.		No

Table shows that among the support service areas in OPD that service element were 14, that were present in 09 and absent in 05.

**Table 7:** Summary of Distribution of Support service areas in OPD

Support service areas	Distribution of frequency	Percentage (%)
Yes	09	64
No	05	36
Total	14	100

Table shows that among support service areas were present in 64% and were absent in 36%.

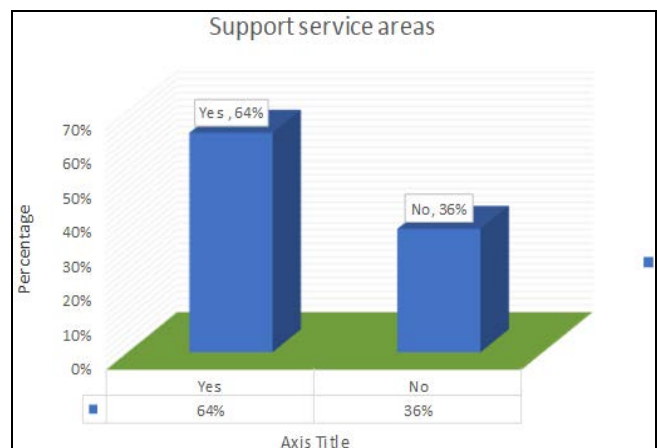


Figure 2. shows that among the support service areas that were 'yes' 64% and 'no' were 36%.

**Fig 2:** Summary of distribution of Support service areas

**Table 8:** Study on Environmental consideration in OPD

	Environmental consideration	Yes	No
1.	Hospital waste generated is managed in accordance with the Biomedical waste management.		No
2.	General waste collected in black container.	Yes	
3.	The sharp are subjected to deep burial and a pit for the same is available within the hospital premises.		No
4.	Facilities for syringe and needle destruction are available and practice.	Yes	
5.	A site for composting of biodegradable waste is available within the hospital premises.		No
6.	Segregation of waste is done in maximum 3 containers (Black, Blue and Yellow)		No
7.	Infection control policy is available.	Yes	
8.	Written protocols on cleaning of the areas and equipment used in patient care are available.	Yes	
9.	Adequate lighting arrangement and cross ventilation present in all areas.	Yes	
10.	Landscaping is done	Yes	
11.	Arrange of drinking water for patients		No

Table shows that among the environmental consideration that service element were 11, that were 'yes' 06 and 'No' 05.

**Table 09:** Distribution of Environmental consideration in OPD

Environmental consideration	Distribution of Frequency	Percentage (%)
Yes	06	55
No	05	45
Total	11	100

Table shows that among the environmental consideration in 55% were present and 45% were absent in public hospital.

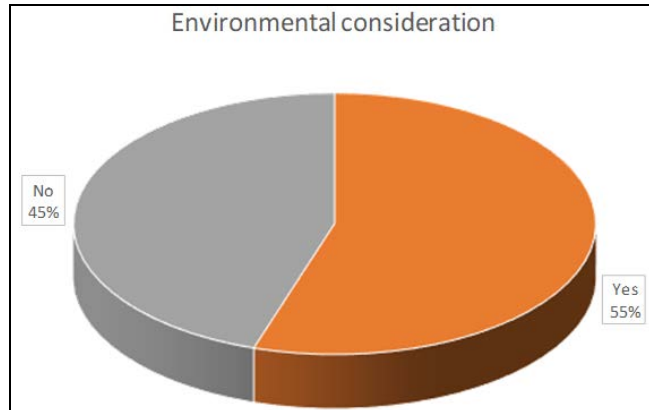


Figure 3. Shows that among the environmental consideration 55% were present and 45% were absent.

**Fig 3:** Distribution of Environmental consideration in OPD

**Table 10:** Manpower statement in OPD:

	Manpower statement	Authorized	Available
1.	Doctor	05	08
2.	Nurse	02	02
3.	Pharmacist	03	03
4.	Laboratory technologist	01	01
5.	Dental technologist	01	01
6.	Radiographer	01	01
7.	4 <sup>th</sup> class staff	09	09

Table shows that among the manpower statement in OPD that were present in all manpower according to authorized in the hospital.

**Table 12:** Patient–Doctor Ratio in OPD

Total No. of patients (1st March to 31th May, 2019.)	Total No. of working days	Average daily No. of patients	Total No. of doctors	Average daily No. of patients per doctor
17401	74	235	08	29

Patients per doctor in Public hospital 29: 01

**Discussion**

Understanding service provided in OPD is emerging as a critical issue in health service delivery with recent research showing that Public hospital in outpatient department’s facilities process and outcome using the standardization of medical equipment list in Bangladesh and Indian Public Health Standard (IPHS) as the survey statement. All the survey items were completed by either the outpatient department or their physical facilities. The study on aspect shows that waiting area in the hospital is not earmarked and do not have separate toilet for female patients. Laboratory and equipment were present in 90% and were absent in 10%, support service areas 64% were present and 36% were absent. Environmental consideration 55% were present and 45% were absent. Manpower statement in OPD were available according to authorized in the hospital, that were doctors – 08, nurse – 02, pharmacist – 03, laboratory technologist – 01, dental technologist – 01, radiographer – 01 and 4<sup>th</sup> class staff -09. Total number of patients (1st

**Table 11:** Workload in OPD (1<sup>st</sup> March to 31<sup>th</sup> May, 2019)

	Workload in OPD	Public Hospital
1.	Total No. of patients	17,401
2.	Total No. of Male Patients	6889
3.	Total No. of Female patients	7,607
4.	Total No. of Child patients	2,905

Table shows that among the Total No. of patients (1<sup>st</sup> 1st March to 30th May, 2019) that were 17,401, Male patients – 6889, Female patients- 7,607, child patients – 2,905.

Total no. of patients: 17,401  
 Male patients: 6889  
 Female patients: 7607  
 Child patients: 2905

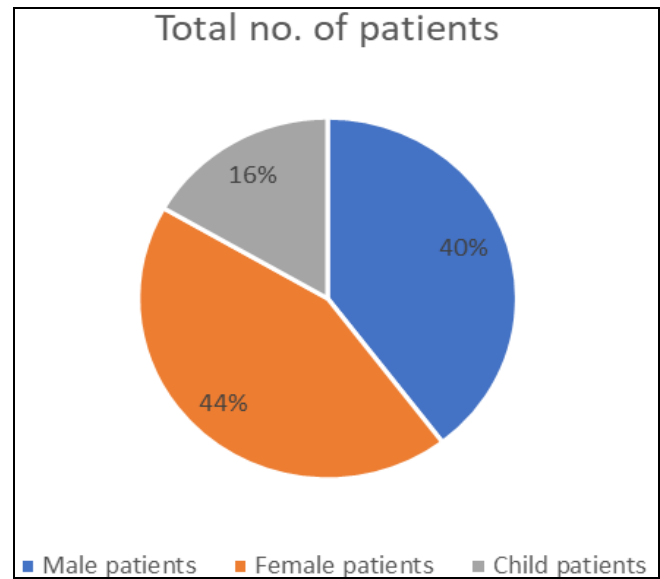


Figure Shows that among the workload in OPD that were male patients 40%, female Patients were 44% and 16% were child patients.

**Fig 4:** Workload in OPD (1<sup>st</sup> March to 31<sup>th</sup> May, 2019)

March to 31th Ma, 2019): 17401. Average daily number of patients: 235, total working days -74, Patients per doctor in Public hospital 29:01.

According to Bureau of Indian Standards (BIS) – Out patient department of hospital has functional and administrative links with the hospital required space: Entrance zone – 2 sq. meter / bed  
 Ambulatory zone – 10 sq. meter/bed  
 A room of about 12.5 m. sq. is adequate for a consultation as well as examination. This also includes the space for examination table, a wash basin, instrument trolley, a X-Ray viewing screen, desk and chair for consultant /doctor as well as two chairs for patients/ visitors. If examination room is cater for separately, a space of 8 m.sq. is sufficient. Toilet should be close to the consultant room. Waiting areas toilet should be close and required separate for male and female. Medicine store should be keep in air condition. All the survey items were completed by either out patient department to ascertain significant gaps between structure,

process and outcome. However, more work needs to be done about this important finding.

### Acknowledgement

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### Conclusion

In conclusion the result obtained at OPD status have shown that the physical facilities at standardization of medical equipment in Bangladesh and Indian Public Health Standard of check list were comparatively higher than the Public Hospital, Dhaka. So, according to check list that were not available and requires attention. The study was conducted in a public hospital. Large scale study in various hospital's department in OPD that were structure in OPD 75% were present and 25% were absent, Laboratory and equipment 90% were present and 10% were absent, support service areas 64% were present and 36% were absent, environmental consideration 55% were present but do not have facilities for drinking water, manpower statement in OPD were available as per authorized, workload in OPD (1st March to 31st May, 2019)–Total patients were 17,401, male patients were 6889, female patients were 7,607 and child patients were 2905. However, In this period, patient – doctor ratio were 29:01. In this study, The check list has been empirically evaluated in the hospital environment and has been shown, if appropriate the structure, process and outcome of outpatient department, then the productivity of the outpatient department (OPD) will increase and the patient will be satisfied.

### Recommendation

1. This study focused on out patient department of selected public hospital in Dhaka city. To know the actual status, this study is needed to conduct over larger area.
2. The study shows that the waiting space is not available and it is not earmarked and do not have facilities for drinking water.

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