

## PRESENT STATUS OF THE DEGREE PHARMACY LIBRARIES SITUATED IN WEST BENGAL- AN ANALYTICAL STUDY

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### ABSTRACT: -

Pharmacy is a kind of technical education where its library plays an important role. This study has been conducted to identify the present situation of the degree pharmacy libraries situated in West Bengal. Planning activities, resource collection and organization of library resources, services and security aspects of all the libraries under the study have been examined. Survey method has been applied for collection of data from the pharmacy libraries

**KEYWORDS:** Pharmacy education, Degree pharmacy library; West Bengal, Library planning activities; resources of the library, organization of library resources, library services; library security system.

### INTRODUCTION

Education and culture had come in our life to fulfill our day to day demand. Different fields of education helped us in different manner. The practice and study of pharmacy was as old as Indus Valley Civilization. The traditional systems of medicine like Ayurveda, Siddha had originated in India itself. In ancient India the sources of drugs were vegetables, animals and minerals and many other natural resources. Medicines were prepared by few experienced people. There was no scientific method for preparation of drugs. The

colonial period brought the new western system of medicine and paved the way for emergence of pharmacy houses in India. Pharmacy practice had been recognized as a profession since 18th century only (Miglani, 2008). But the inception of modern pharmaceutical education, a kind of technical education was traced to later part of 19th century in India (Singh, 2009).

Pharmacy education was defined as perfect blend of science and technique, arts and human values of preparing and dispensing drugs

(Ligade et al., 2008). On the other hand it was described as a health related profession that links health sciences with chemical sciences and aims at ensuring the safe and effective use of pharmaceutical drugs. Along with the traditional roles such as compounding and dispensing medications it also included more modern services related to health care like clinical service, reviewing medications for safety and efficacy, and providing drug information etc. (Sachan & Gangwar, 2012). So, pharmacy education played a prominent role in attaining sustainable and equitable development of the country (Shrivastava et al., 2006).

Prior to mid 1980, the growth of government institute was very slow. Until early 1980s, there were 11 universities and 26 colleges offering pharmacy education at the bachelor's and master's levels. In addition to it, there was at least one government school in every Indian state offering the D-Pharm program. Since the late 1980s, due to rapid industrialization in the pharmaceutical sector, privatization, and economic growth, pharmacy education had developed faster in India (Singh, 1994). According to AICTE approval process handbook: 2012- 2013, there were 1145 pharmacy colleges in India and intake was 102746, but six years ago (2006-07) it was nearly half the number of institutes i.e. 665 and intake was 39517 (AICTE: approval process handbook: 2012- 2013).

## **IMPORTANCE**

Pharmacy education in India was imparted in diverse settings and backgrounds viz. government and private pharmacy colleges including deemed universities and departments of pharmacy at state/central universities; urban vs. rural settings; institute with strong industry collaboration vs. practice based training; integrated postgraduate research institute vs. simple diploma institutions and so on. There were significant variations in different aspects of these institutions i.e. infrastructure, library system, quality of education and training provided to the students etc. Therefore, infrastructure, collection, organization or management of library collection, dissemination of information and kinds of services varied from one pharmacy library to another. However, the present study aimed at measuring the present situation of the degree pharmacy libraries situated in West Bengal.

## **THE STUDY HAD BEEN CONDUCTED TO MEET THE FOLLOWING OBJECTIVES:**

- i) to depict a picture of pharmacy colleges approved by the AICTE and PCI situated in West Bengal.
- ii) to identify the present situation of the pharmacy libraries;
- iii) to identify different activities of the library and services offered.
- iv) to suggest the possible remedies to overcome the gap if any.

## SCOPE AND COVERAGE

There are more than 700 pharmacy colleges in India, 13 degree colleges, which were situated in West Bengal have been included under this study. Library data upto April 2014 and pharmacy colleges established before April 2014 had been taken into consideration.

## METHODS USED

Survey method was used to collect data to assess the existing situation, to check overall library system, to identify shortcomings, inadequacies and to plan accordingly. The information of pharmacy college libraries of West Bengal was collected from the primary and secondary sources of these colleges. Library survey was conducted to gather information about each particular degree pharmacy library. Through personal interview and observation and on the basis of questionnaire data had been collected from the degree college librarians or principals of the colleges.

Through the present study it was intended to find out present situation of the degree pharmacy libraries.

## PRESENTATION AND ANALYSIS OF DATA

Each of the libraries was evaluated on the basis of collected data. To meet the objective of the study analysis of data had been done.

**Table 1:** Distribution of number of pharmacy institutions situated in West Bengal.

Category	No. of Pharmacy Colleges	Percentage (%)
Total no. of approved Degree Pharmacy Colleges by the AICTE, PCI or both	13	100%
Questionnaire Sent	13	100%
Response Received	13	100%

All the 13 degree pharmacy colleges situated in West Bengal had been considered under the study. According to the above table, out of the 13 colleges, 13 had responded. Hence, the study was based on 100% of the selected data.

General information about the pharmacy institutions

Some general information about the degree pharmacy colleges like year of establishment, funding status, location and courses offered by the institutions are discussed here.

**Table 2:** Distribution of degree pharmacy institutions in respect of establishment year, funding status, location and offered courses.

Sl No	Name of the Institutions	Year of Estad.	Status	Loc.	Offered Courses
1	Department of Pharmacy	1964	Government	Urban	B.Pharm, M.Pharm
2	Institute of	2003	Government	Urban	D.Pharm, B.Pharm
3	Gupta College	2000	Private	Urban	B.Pharm, M.Pharm

4	Calcutt a Institut	2002	Private	Rural	D.Pharm, B.Pharm, M.Pharm
5	Netaji Subhas h	2004	Private	Rural	B.Pharm, M.Pharm
6	Dr. B. C. Roy College	2005	Private	Urban	B.Pharm, M.Pharm
7	Guru Nanak Institut	2005	Private	Urban	D.Pharm, B.Pharm, M.Pharm
8	NSHM College of	2005	Private	Urban	B.Pharm M.Pharm
9	B.C.D. A.	2006	Private	Urban	B.Pharm M.Pharm
10	Bengal Institut	2006	Private	Urban	B.Pharm (Ayurved)
11	Bengal School	2006	Private	Rural	B.Pharm, M.Pharm
12	Bharat Techno	2006	Private	Rural	B.Pharm
13	Bengal College of Pharma ceutical Science s and Researc h, Durgap ur (BCPS R, Durgap ur)	2008	Private	Urban	B.Pharm

**Table 2A:** Establishment year wise distribution of degree pharmacy institutions.

Sl. No.	Establishment Years	Establishment Year wise No. of Pharmacy Colleges in West Bengal
1	Upto 1970	1(7.70%)
3	1971-2000	-
4	2001-2010	12 (92.30%)
<b>Total</b>		<b>13 (100%)</b>

Table 2 and 2A show year wise establishment of the degree pharmacy institutions. There was only one degree institution established before 1970, not a single degree pharmacy institution was established within the period of 1971 to 2000 but twelve institutions were established in next ten years i.e. 2001 to 2010.

**Table 2B:** Distribution of the degree pharmacy institutions according to their funding status & location.

Status		No. of Pharmacy Colleges	(%)
Fund	Government Aided	2	15.38%
	Private Aided	11	84.62%
Total		13	100%
Location	Urban	9	69.23%
	Rural	4	30.77%
Total		13	100%

Table 2B presents the funding status and location of the degree pharmacy institutions. It is clear from the above table maximum i.e. 11(84.62%) pharmacy institutions under the study were private funded and located in the urban (69.23%) and rural (30.77%) the areas.

**Table 2C:** Distribution of the degree pharmacy institutions according to offered courses.

Sl. No.	Offered Courses	No. of Pharmacy Institutions	(%)
1	B.Pharm	3	23.08%
2	B. Pharm &	1	7.70%
3	B. Pharm &	7	53.84%
4	D. Pharm, B.	2	15.38%
<b>Total</b>		<b>13</b>	<b>100%</b>

According to the table 2C maximum institutions i.e. 7(53.84%) offered B.Pharm and M.Pharm courses. 3(23.08%) institutions offered B.Pharm course only. 1(7.70%) institution offered B.Pharm and D.Pharm both the courses and only 2(15.38%) institutions offered all the D.Pharm, B.Pharm and M.Pharm courses at their institutions.

#### Library planning activities:

Planning is a preferred manner for preparing expected library system and services in the future, which was the responsible means of fulfilling future library needs. Here, in this study based on the four planning aspects, like library committee, library advisory committee, book selection committee, library budget of the pharmacy institutions had been presented and analyzed.

**Table 3:** Distribution of planning activities of the degree pharmacy libraries.

Sl. No.	Name of the Institutions	Library Committee	Library Advisory Committee	Book Selection Committee	Library Budget	
					Regular / Yearly	Irregular
1	BCDA,	Yes	-	Yes	-	Yes
2	BCPSR, Durgapur	-	-	Yes	-	Yes
3	BIPS,	-	-	-	-	Yes
4	BCR,	Yes	-	Yes	-	Yes
5	BST,	-	-	Yes	-	Yes
6	BT,	-	-	Yes	-	Yes
7	CIPT	Yes	-	Yes	Yes	-
8	DPT, JU, Jadavpur	Yes	-	Yes	Yes	-
9	IP,					
10	GCT,	Yes	-	Yes	Yes	-
11	GNIPST, Sodepure	-	-	Yes	Yes	-
12	NSHM,	Yes	-	Yes	Yes	-
13	NSCB, Chakdaha	-	-	Yes	-	Yes

**Table 3A:** Distribution of number of degree pharmacy libraries in respect of planning aspects.

Planning Aspects	Status	No. of Pharmacy Institutions
Library Committee	Exist	6 (46.15%)
	Not-Exist	7(53.55%)
Advisory Library Committee	Exist	0
	Not-Exist	13(100%)
Book Selection Committee	Exist	13(100%)
	Not-Exist	0
Library Budget	Regular	5(38.46%)
	Irregular	8(61.54%)

Based on the tables 3 and 3A, it is observed that out of the 13 libraries, only 6 (46.15%) had library committee. There was no existence of library advisory committee at all, 13(100%) libraries had purchased their books through the ecommendation of book selection committee and only 5 (38.46%) libraries had maintained regular library budget.

### LIBRARY INFRASTRUCTURE:

To provide comfortable reading environment and services, proper infrastructure is required. Here in this study library carpet area, number of reading seats, number of computers for users and staff, book searching procedure i.e. access system, air- conditioning facility and bag deposit counter of the pharmacy libraries were considered under the library infrastructural aspect. Different components of library infrastructure of each of the libraries have been presented in the table 4.

Table 4: Distribution of infrastructural aspects of the degree pharmacy libraries.

Sl. No	Name of the Institutions	Floor Space	No. of reading Seats	No. of Comp. for Students	No. of Comp. for Staff	AC Library	Access Sys.	Bag Deposit Counter
1	BCDA, Barasat	1162	60	-	1	-	Semi-Open	
2	BCPSR, Durgapur	1938	60	4	1	-	Open	Yes
3	BCR, Durgapur	3000	50	1	2	-	Close	Yes
4	BIPS, Kalyani	2000	50	-		-	Close	
5	BST, Hooghly	2000	40	-	1	-	Close	Yes
6	BT, Uluberia	1500	50	-	2	-	Close	
7	CIPT Uluberia.	3000	50	3	3	-	Close	Yes
8	DPT, JU, Jadavpur	3500	50	1	1	-	Open	
9	GCT, Asansol	2000	55	6	2	-	Close	
10	GNIPST, Sodpure	5000	120	-	2	-	Close d	Yes
11	NSHM, Kolkata	2800	40	10	4	Fully AC	Close d	Yes
12	IP, Jalpaiguri	1500	30	-	-	-	Close	-
13	NSCB, Chakdaha	1615	80	-	1	-	Open	-

**Table 4A:** Distribution of number of pharmacy libraries in relation to the infrastructural aspects.

Floor Space (sq. ft.)	No. of Lib.	Reading Seats	No. of Lib.	No. of Computers for Students	No. of Lib	No. of Computers for staff	No. of Lib.	AC Lib.	No. of Lib.	Access System	No. of Lib.	Bag Deposit Counter	No. of Lib.
Above 3000	2 (15.38%)	Above 100	1 (7.69%)	9 and above	1 (7.69%)	4	1 (7.69%)	AC Library	1 (7.70%)	Open	3 (23.08%)	Exist	6 (46.15%)
2501-3000	3 (23.08%)	75-100	1 (7.69%)	6-8	1 (7.69%)	3	1 (7.69%)						
1501-2500	5 (38.46%)	51-75	3 (23.08%)	2-5	2 (15.38%)	2	4 (30.77%)						
Up to 1500	3 (23.08%)	Upto 50	8 (61.54%)	No Computer	7 (53.86%)	1	5 (38.47%)	Non-AC Library	12 (92.30%)	Semi-Open	1 (7.69%)	Not-Exist	7 (53.85%)
						No Computer	2 (15.38%)			Closed	9 (69.23%)		
Total	13 (100%)	-	13 (100%)	-	13 (100%)	-	13 (100%)	-	13 (100%)	-	13 (100%)	-	13 (100%)

Based on tables 4 and 4A, it is clear that there were 2 (15.38%) libraries with more than 3000 sq. ft. library area, 3 (23.08%) libraries with 2501-3000 sq. ft. library area, 5 (38.46%) libraries with 1501-2500 sq. ft. library area and another 3 (23.08%) libraries with upto 1500 sq. ft. library area. Out of 13 degree libraries only in 1 (7.69%) library, more than 100 users can set at a time in the reading room. More than 5 computers were available for the users of 2 (15.38%) libraries; upto 5 computers were provided for the users of the 4 (30.77%) libraries and 7 (53.86%) libraries were there without any computer for users. Other than 2 (15.38%) degree libraries rest 11 (84.62%) libraries had different number of computers for their staff members. Most of the libraries i.e. 12 (92.30%) libraries were non-air conditioned. Closed access system had been followed by maximum libraries i.e. 9 (69.23%). 7 (53.85%) libraries don't have any bag deposit counter in the library.

**Library resources:**

Library resource collection is the basic requirement for a library. Here, in this study, it was divided into two parts, physical and human resources. Print and non-print format of resource had been included under the physical resource collection. Print resource collection covered books, journals, bound journals, magazines, newspapers and non-print or electronic resource covered collection of e-journals, e-books and CD/DVD, where human resources included number of professional and non-professional staff members of the library. Here, in the following tables, print and non-print physical resource collection and the human resource of each of the individual library has been presented.

**Table 5:** Distribution of print resource collections of the degree pharmacy libraries.

Sl. No.	Name of the Institutions	Books	Journals	Bound Journals	Magazines	News Papers
1	BCDA, Barasat	5601	24	78	5	3
2	BCPSR, Durgapur	4115	28	56	4	5
3	BCR, Durgapur	6200	36	180	5	3
4	BIPS, Kalyani	4300	12	35	3	4
5	BST, Hooghly	4600	15	80	3	3
6	BT, Uluberia	7000	25	68	6	2
7	CIPT Uluberia.	9030	30	150	-	2
8	DPT, JU, Jadavpur	6265	10	1010	-	-
9	GCT, Asansol	10138	26	135	5	4
10	GNIPST, Sodpure	8785	22	145	4	3
11	NSHM, Kolkata	5450	30	95	4	4
12	IP, Jalpaiguri	5490	5	50	3	3
13	NSCB, Chakdaha	3303	21	-	2	2

**Table 6:** Distribution of non-print resource collections of the degree pharmacy libraries.

Sl. No	Name of the Institutions	Name of the Consortium	E-Journals	E-Books	CD/DVD
1	BCDA, Barasat	BENTHAM, ELSEVIER	80	-	76
2	BCPSR, Durgapur	BENTHAM, ELSEVIER, DELNET	220	-	80
3	BCR, Durgapur	DELNET	32	-	204
4	BIPS, Kalyani	-	-	-	-
5	BST, Hooghly	-	-	-	-
6	BT, Uluberia	-	-	-	-
7	CIPT Uluberia.	ELSEVIER	10	-	215
8	DPT, JU, Jadavpur	ELSEVIER	3	-	30
9	GCT, Asansol	ELSEVIER, BENTHEM,	200	20	240



		DELNET			
10	GNIPST, Sodpure	DELNET	32	246	592
11	NSHM, Kolkata	BENTHAM, ELSEVIER	130	-	168
12	IP, Jalpaiguri	-	-	-	62
13	NSCB, Chakdaha	-	-	-	35

**Table 6A:** Distribution of number of pharmacy libraries based on the electronic resource collections.

E-Journals	No. of Libs.	E-Book	No. of Libs.	CD/DVD	No. of Libs.
201-250	1(7.69%)	Above 300		Above 300	1(7.69%)
151-201	1(7.69%)			201-300	3(23.08%)
101-150	1(7.69%)	101-300	1(7.69%)	101-200	1(7.69%)
51-100	1(7.69%)			Upto 100	5(38.46%)
Up to 50	4(30.77%)	Up to 100	1(7.69%)	No Collection	3(23.08%)
No Collection	5(38.47%)				
Total	13(100%)		13(100%)		13(100%)

Table 6 and 6A presents the e-resource collections of the libraries. It is clear from the tables that 5(38.47%) libraries did not have any e-journal collection and rest 8 (61.53%) libraries had different number of e-journal collections. 11 (84.62%) libraries did not have any e-books collection. Only 1(7.69%) library had above 300 CD/DVD collections 5(38.46%) libraries had upto 100 number CD/DVD collections but 3(23.08%) libraries did not have any CD/DVD collections.

**Table 7:** Distribution of number of staff members of the degree pharmacy libraries.

Sl. No.	Name of the Institutions	Number of Library Staff Members	
		Professional	Non-Professional
1	BCDA, Barasat	1	3
2	BCPSR, Durgapur	1	2
3	BCR, Durgapur	1	2
4	BIPS, Kalyani	1	1
5	BST, Hooghly	1	1
6	BT, Uluberia	1	1
7	CIPT Uluberia.	4	-
8	DPT, JU, Jadavpur	1	2
9	GCT, Asansol	3	3
10	GNIPST, Sodpure	2	-
11	NSHM, Kolkata	4	-
12	IP, Jalpaiguri	-	-
13	NSCB, Chakdaha	-	2

Table 7A: Distribution of number of pharmacy libraries against the library staff.

Professional Staff	No. of Library	Non-Professional Staff	No. of Library
4	2 (15.38%)	3	2 (15.38%)
3	1 (7.69%)		
2	1 (7.69%)	2	4 (30.77%)
1	7 (53.86%)	1	3 (23.08%)
None	2 (15.38%)	None	4 (30.77%)
Total	<b>13 (100%)</b>		<b>13 (100%)</b>

As per the tables 7 and 7A, 7(53.86%) libraries were run by a single library professional staff, each 1(7.69%) of the library were run by two and three professional staff members respectively, 2(15.38%) libraries were run by four professional library staff members. There were 4 (30.77%) libraries did not have any non-professional library staff, 3(23.085) libraries had single non-professional staff, 4(30.77%) libraries had two non-professional library staff and other 2(15.38%) libraries had three non-professional library staff members.

### Organization of library resources

Organization of library physical resources is very essential for the effective use of library resources. Libraries need to do different kinds of organizational activities. Here, in the table 8 different organizational activities related to the physical resource collections have been identified and presented. Twenty two kinds of organizational activities have been considered here, which are grouped into two categories e.g. manual technical resource organizational activities and automated technical resource organizational activities.

**Table 8:** Distribution of the manual technical resource organizational activities of the degree pharmacy libraries.

Sl. No.	Name of the Institutions	Classification (DDC/UDC/CC)	Cataloguing	Stamping	Bill Processing	Accession	Labeling	Shelving
1	BCDA, Barasat	Yes (DDC)	Yes (AACR2R)	Yes	Yes	Yes	Yes	Yes
2	BCPSR, Durgapur	Yes (DDC)	Yes (AACR2R)	Yes	Yes	Yes	Yes	Yes
3	BCR, Durgapur	Yes (DDC)	Yes(AACR2)	Yes	Yes	Yes	Yes	Yes
4	BIPS, Kalyani	-	-	Yes	Yes	Yes	-	Yes
5	BST, Hooghly	Yes (DDC)	Yes (AACR2)	Yes	Yes	Yes	Yes	Yes
6	BT, Uluberia	Yes (DDC)	Yes (AACR2R)	Yes	Yes	Yes	Yes	Yes
7	CIPT Uluberia.	Yes (DDC)	-	Yes	Yes	Yes	Yes	Yes
8	DPT, JU, Jadavpur	Yes (DDC & UDC)	Yes (AACR2R)	Yes	Yes	Yes	Yes	Yes
9	GCT, Asansol	Yes (DDC)	Yes(AACR2)	Yes	Yes	Yes	Yes	Yes
10	GNIPST, Sodpure	Yes (DDC)	-	Yes	Yes	Yes	Yes	Yes
11	NSHM, Kolkata	Yes (DDC)	-	Yes	Yes	Yes	Yes	Yes
12	IP, Jalpaiguri	-	-	Yes	Yes	Yes	-	Yes
13	NSCB, Chakdaha	-	-	Yes	Yes	Yes	-	Yes

Table 8A: Distribution of number of pharmacy libraries in respect of different manual technical resource organizational activities.

Manual Technical Resource Organizational Work of the Library	No. of Pharmacy Libraries	
	Yes	No
Classification	10 (76.92%)	3(23.08%)
Cataloguing	7 (53.85%)	6 (46.15%)
Bill Processing	13 (100%)	
Stamping	13 (100%)	
Accession	13 (100%)	
Labeling	10 (76.92%)	3 (23.08%)
Shelving	13(100%)	0
Authority File	0	13(100%)
Registers & File Maintenance	13 (100%)	0
Reminder for Non-Receipt of Journals & Books	12 (92.30%)	1(7.70%)
Separate Register for Non-book Materials	10 (76.92%)	3(23.08%)
User Statistics	10 (76.92%)	3(23.08%)
Library Audit	8 (61.54%)	5 (38.46%)
Annual Report	13 (100%)	0

As per tables 8 and 8A, out of fourteen different technical resource organizational (manual) activities, six of its kind like accession, bill processing, stamping, shelving, registers & file maintenance and preparation of annual report had been done by all the 13 degree pharmacy libraries under the study. 12(92.30%) libraries were sent reminder for the non-receipt of journals. Classification of books based on the standard classification tools, cataloguing and labeling of books had been maintained only by 10(76.92%) libraries, 7(53.85%) pharmacy libraries respectively, users' statistics and separate registers of non-book materials were maintained by 10 (76.92%) libraries. Not a single library had maintained authority file in their library.

**Table 9:** Distribution of the automated technical resource organizational activities of the degree pharmacy libraries.

Sl No	Name of the Institutions	Library Software	Data Entry	Automated Acquisition Control	Automated Serial Control	Institutional Repository	Scanning of Resources/ Documents	Bar coding	RFID Tagging	Automated Indexing
1	BCDA, Barasat	LIB Amicus	Yes	-	Yes	-	-	Yes	-	-
2	BCPSR, Durgapore	Library Manager	Yes	-	-	-	-	-	-	-
3	BCR, Durgapur	-	-	-	-	-	-	-	-	-
4	BIPS, Kalyani	-	-	-	-	-	-	-	-	-
5	BST, Hooghly	Koha	Yes	-	Yes	-	-	-	-	-
6	BT, Uluberia	-	-	-	-	-	-	-	-	-
7	CIPT Uluberia.	Libsys	Yes	Yes	Yes	-	-	Yes	-	-
8	DPT, JU, Jadavpur	-	-	-	-	-	-	-	-	-
9	GCT, Asansol	Del-Plus	Yes	-	Yes	-	Yes	Yes	-	-
10	GNIPST, Sodpur	Libsys	Yes	-	-	-	-	Yes	-	-
11	NSHM, Kolkata	Libsys	Yes	Yes	Yes	-	Yes	Yes	-	-
12	IP, Jalpaiguri	-	-	-	-	-	-	-	-	-
13	NSCB, Chakdaha	-	-	-	-	-	-	-	-	-

**Table 9A:** Distribution of number of degree pharmacy institutions in respect of the different automated resource organizational activities.

Automation Work	No. of pharmacy libraries	
	Yes	No
Library software	7 (53.46%)	6 (46.15%)
Data Entry	7 (53.46%)	6 (46.15%)
Automated Acquisition Control	2 (15.38%)	11 (84.62%)
Automated Serial Control	5 (38.46%)	8 (61.54%)
Institutional Repository	0	13 (100%)
Scanning of Imp Lib	2 (15.38%)	11 (84.62%)
Bar- coding	5 (38.46%)	8 (61.54%)
RFID Tagging	0	13 (100%)
Automated Indexing	0	13 (100%)

Based on the tables 9 and 9A, it is clear that 7(53.46%) libraries had library software for managing the library resources and different kinds of activities and by all these seven libraries maintained data entry of book through the library software. Automated acquisition was maintained by 2(15.38%) libraries and automated serial control and bar-coding of books were maintained by 5(38.46%) libraries. Scanning of important documents was possible in 2(15.38% libraries. Institutional repositories, RFID tagging and automated indexing were not maintained by a single library.

**Library services:**

Library services are the key components of the library. Eighteen kinds of library services like internet access, automated circulation, photocopying, OPAC, scanning of documents, computer printout of required documents, book bank facility, employment related information service through display of news paper clipping, overnight lending of the reference books/journals, CD/DVD watching, user orientation program at the beginning of the library use, book lending, CAS/SDI service, display of new arrivals, reading room, instruction for library use, inter library loan and reference service have been covered under the present study.

Table 10: Distribution of services of the degree pharmacy libraries.

Sl No.	Name	Internet Access	Automated Circulation	Photocopying	OPAC/ Web OPAC	Scanning	Computer Print Out	Book Bank	Employment Related Information Service	Overnight Issue of Ref. Books & Journals
1	BCDA, Barasat	-	Yes	Yes	Yes	-	-	-	Yes	Yes
2	BCPSR, Durgapur	Yes	-	-	Yes	-	Yes	-	Yes	Yes
3	BCR, Durgapur	Yes	-	-	-	-	Yes	Yes	Yes	-
4	BIPS, Kalyani	-	-	-	-	-	-	-	Yes	-
5	BST, Hooghly	-	-	Yes	-	-	Yes	-	Yes	Yes
6	BT, Uluberia	-	-	Yes	-	-	-	Yes	Yes	Yes
7	CIPT Uluberia.	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	-
8	DPT, JU, Jadavpur	Yes	-	-	-	-	-	-	Yes	-
9	GCT, Asansol	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	GNIPST, Sodpur	-	Yes	Yes	Yes	-	-	Yes	Yes	Yes
11	NSHM, Kolkata	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	IP, Jalpaiguri	-	-	-	-	-	-	-	-	-
13	NSCB, Chakdaha	-	-	-	-	-	-	-	Yes	Yes

**Table 10:** Distribution of services of the degree pharmacy libraries.

SI No.	Name	CD/DVD Watching	User Orientation Program	Book Lending	CAS/ SDI	Display of New Arrivals	Reading Room	Instruction for library Use	Inter Library Loan	Reference Service
1	BCDA, Barasat	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
2	BCPSR, Durgapur	-	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
3	BCR, Durgapur	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
4	BIPS, Kalyani	-	-	Yes	Yes	Yes	Yes	-	-	Yes
5	BST, Hooghly	-	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
6	BT, Uluberia	-	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
7	CIPT Uluberia.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
8	DPT, JU, Jadavpur	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
9	GCT, Asansol	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	GNIPST, Sodpur	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	NSHM, Kolkata	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	IP, Jalpaiguri	-	-	Yes	-	Yes	Yes	-	-	-
13	NSCB, Chakdaha	-	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes

**Table 10A:** Distribution of number of pharmacy libraries in respect of the offered library services.

Library Services	No. of Pharmacy Libraries	
	Yes	No
Internet Access	6 (46.15%)	7 (53.85%)
Automated Circulation	5 (38.46%)	8 (61.54%)
Photocopying	7 (53.85%)	6 (46.15%)
OPAC	6 (46.15%)	7 (53.85%)
Scanning	2 (15.38%)	11 (84.62%)
Computer Print Out	6 (46.15%)	7 (53.85%)
Book Bank	6 (46.15%)	7 (53.85%)
Employment Related Information Service	12 (92.30%)	1(7.70%)
Overnight Issue of the Reference books/Journals	8 (61.54%)	5 (38.46%)
CD/DVD Watching	7 (53.85%)	6 (46.15%)
User Orientation Program	11 (84.62%)	2 (15.38%)
Book Lending	13 (100%)	0
CAS/SDI	12 (92.30%)	1(7.70%)
Display of New Arrivals	13 (100%)	0
Reading Room	13 (100%)	0
Instruction for library Use	11 (84.62%)	2 (15.38%)
Inter Library Loan	3 (23.08%)	10 (76.92%)
Reference Service	12 (92.30%)	1 (7.70%)

Based on the tables 10 and 10A, it is clear that only the conventional library service i.e. book lending, reading room facility, reference service, CAS/SDI service, instruction for library use, users orientation program and employment related information had provided by most of the libraries. Internet access had been provided by the 6(46.15%) libraries, 7(53.85%) libraries had been provided photocopying facility. OPAC facility, book bank and computer printout service had been provided by 6(46.15%) libraries. Inter library loan service had been provided by 3 (23.08%) libraries.

**Table 11:** Distribution of library service hours of the degree pharmacy libraries.

Sl No.	Name of the Institutions	Working Days	Day/ Week	Library Hours	Hour/ Week
1	BCDA, Barasat	Monday- Saturday	6	9am-6pm	54
2	BCPSR, Durgapur	Do	6	9:15am-6pm	52.3
3	BCR, Durgapur	Monday- Saturday	6	9:30am-6pm	51
4	BIPS, Kalyani	Do	6	10:20am-5:30pm	43
5	BST, Hooghly	Do	6	9:30am-6pm	51
6	BT, Uluberia	Do	6	10am-5:30pm	45
7	CIPT Uluberia.	Do	6	10am-5:30pm	45
8	DPT, JU, Jadavpur	Monday- Friday	5	Monday-Wednesday-10am-7pm, Thursday & Friday- 10am - 5:30pm	42
9	GCT, Asansol	Do	6	9:30am-6:pm	51
10	GNIPST, Sodpure	Do	6	9:30am-6:30pm	54
11	NSHM, Kolkata	Do	6	9:30am-6pm	51
12	IP, Jalpaiguri	Any 2 days/Week	2	9am-4pm	12
13	NSCB, Chakdaha	Do	6	9:30am-4:20pm	44

**Table 11A:** Distribution of number of degree pharmacy libraries in respect of library service hours.

Library Days/Week	No. of pharmacy libraries as per library service days	Library hours/Week	No. of pharmacy libraries as per library service times
6 Days	11(84.62%)	51-60	7(53.85%)
5 Days	1(7.69%)	41-50	5 (38.46%)
Only 2 Days	1(7.69%)	Upto 15	1(7.69%)
<b>Total</b>	<b>13 (100%)</b>	<b>Total</b>	<b>13 (100%)</b>

It is reflected from the tables 11 and 11A that 6 days/week library service had been provided by 11(84.62%) libraries, 5 days/week library service had been provided by 1 (7.69%) library and rest 1(7.69%) library provides only 2 days/week library service. 51-60 hours library service had been provided by 7 (53.85%) libraries, 41-50 hours library service had been provided by 5 (38.46%) libraries and upto 15 hours library service had been provided by only 1(7.69%) library.



Table 12: Distribution of book availability ratio and average daily users of the degree pharmacy libraries.

Sl. No	Name of the Institutions	No. of Books	No. of Users		Total Users	Books Availability Ratio	Average Daily Users	% of Daily Users
			Students	Faculty Members				
1	BCDA, Barasat	5601	266	18	284	19.72	130	45.77
2	BCPSR, Durgapur	4115	167	16	183	22.49	30	16.39
3	BCR, Durgapur	6200	400	33	433	14.32	80	18.47
4	BIPS, Kalyani	4300	200	12	212	20.28	40	18.86
5	BST, Hooghly	4600	330	15	345	13.33	150	43.47
6	BT, Uluberia	7000	200	20	220	31.82	70	31.81
7	CIPT Uluberia.	9030	660	40	700	12.90	220	31.42
8	DPT, JU, Jadavpur	6265	350	25	375	16.71	70	18.66
9	GCT, Asansol	10138	380	32	412	24.61	80	19.41
10	GNIPST, Sodpure	8785	625	20	645	13.62	120	18.60
11	NSHM, Kolkata	5450	328	26	354	15.40	100	28.24
12	IP, Jalpaiguri	5490	311	12	323	17.00	25	7.73
13	NSCB, Chakdaha	3303	130	14	144	22.94	35	24.30

Table 12A: Distribution of number of pharmacy libraries in respect of book availability ratio, average daily users of the library.

Book Availability Ratio	No. of Libraries	No. of Daily Users (Based on Total Users)	No. of Libraries
30-39.99	1(7.70%)	Above 40%	2 (15.38%)
		30%-39.99%	2 (15.38%)
20-29.99	4 (30.76%)	20%-29.99%	2 (15.38%)
Upto 19.99	8 (61.54%)	10%-19.99%	6 (46.16%)
		Up to 9.99%	1(7.70%)
<b>Total</b>	<b>13 (100%)</b>		<b>13 (100%)</b>

As per tables 12 and 12A, book availability ratio of only 1 (7.70%) library was in the range of 30-39.99. Maximum libraries i.e. 8 (61.54%) were reflecting upto 19.99 book availability ratio. 4 (30.76%) libraries were maintained 20- 29.99 book availability ration. There were 6 (46.16%) libraries having 10-19.99% daily users, 2(15.38%) libraries having above 40% daily users where as 1(7.70%) library having daily users within 9.99%.

## Library security system

To protect library from any kind of loss, library security is very much essential. Ten kinds of security related aspects like, regular stack rectification, yearly stock verification, binding of books or journals, preservation and conservation of library materials, dusting of books, fire extinguisher, computer hardware and software maintenance, security of electrical devices, checking at entry door and CC TV surveillance have been covered under this study.

Table 13: Distribution of the security related activities of the degree pharmacy libraries.

Sl No	Name of the Institutions	Regular Stack Rectification	Yearly Stock Verification	Binding of Books or Journals	Preservation & Conservation	Dusting of Books	Fire Extinguisher	Computer Hardware and Software Maintenance	Security of electrical devices	Checking at Entry Door	CC TV Surveillance
1	BCDA, Barasat	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes
2	BCPSR, Durgapur	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	-
3	BCR, Durgapur	Yes	Yes	Yes	Yes	Yes	Ye	Yes	Yes	-	-
4	BIPS, Kalyani	Yes		Yes	-	Yes	-	-	Yes	-	-
5	BST, Hooghly	Yes		Yes	Yes	Yes	-	Yes	Yes	-	Yes
6	BT, Uluberia	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	-
7	CIPT Uluberia.	Yes	Yes	Yes	Yes	Yes	Ye	Yes	Yes	-	Yes
8	DPT, JU, Jadavpur	Yes		Yes	Yes	Yes	-	Yes	Yes	-	-
9	GCT, Asansol	Yes	Yes	Yes	Yes	Yes	Ye	Yes	Yes	-	-
10	GNIPST, Sodpur	Yes	Yes	Yes	Yes	Yes	Ye	Yes	Yes	-	Yes
11	NSHM, Kolkata	Yes	Yes	Yes	Yes	Yes	Ye	Yes	Yes	Yes	Yes
12	IP, Jalpaiguri	-	-	Yes	-	Yes	-	-	Yes	-	-
13	NSCB, Chakdaha	Yes	-	Yes	Yes	Yes	-	Yes	Yes		-

Table 13A: Distribution of number of degree pharmacy libraries in respect of security related activities.

Library Security System Activities	No. of Pharmacy Libraries	
	Yes	No
Regular Stack Rectification	12(92.30%)	1(7.70%)
Yearly Stock Verification	8(61.54%)	5(38.46%)
Binding of Books or Journals	13(100%)	0
Preservation & Conservation of Library Resources	11(84.62%)	2(15.38%)
Dusting of Books	13(100%)	0
Fire Extinguisher	5(38.46%)	8(61.54%)
Computer Hardware and Software Maintenance	11(84.62%)	2 15.38%)
Security of Electrical devices	13(100%)	0
Checking at Entry Door	3(23.08%)	10 (76.92%)
CC TV surveillance	5(38.46%)	8(61.54%)

As per the tables 13 and 13A, regular stack rectification, binding and dusting of book, preservation and conservation of library resources, computer hardware and software maintenance and security of electrical devices had been maintained by more than 80% libraries. Yearly stock verification of the library resources had been maintained by 8(61.54%) libraries. There was only 5(38.46%) libraries having fire extinguishers and CC TV surveillance system inside the library. 3(23.08%) libraries had provision of checking at library entry door of the library.

### **SWOT (Strength Weakness Opportunities Threats) analysis:**

Pharmacy library has a very important role in the pharmacy course program. Different services and facilities are related with the development of this field of education. Collection and organization of library resources is essential to provide right information at the right time to the right users, for proper retrieval and use of information. In this context, SWOT Analysis of the degree pharmacy libraries situated in West Bengal may give a conceptual framework to find out the situations of the libraries.

#### **Strength:**

- Collection of library resources.
- Manpower of the library.
- Users of the library.
- Possibility of application of new technologies.

#### **Weakness:**

- Lack of planning activities.
- Lack of electronic resource collection.
- Conventional library resource organizational process.

- Lack of application of library information management software.
- Minimum space for library.
- Lack of use of ICT related applications as well as facilities.
- Minimum number of library staff members.

#### **Opportunities:**

- Application of ICT in library management.
- Increased number of library staff would be helpful for the betterment of the library services and library resource organizational activities.

#### **Threats:**

- Increasing costs of electronic resources would limit the acquisition budget.
- Internet-based study system.
- Explosion of electronic resources.
- Irregular library budget.

## CONCLUSION

Academic libraries played an important and valuable role in achieving academic excellence of the institutions. Pharmacy libraries should provide all the required information on various subjects under the course program without wasting the valuable time of the users. After analysis of all the data of the thirteen degree pharmacy college libraries situated in West Bengal it can be concluded as follows:

- i. Maximum number of degree pharmacy colleges situated in West Bengal were established during the period of 2001 to 2010. Out of 13 degree pharmacy institutions other than 2 rest i.e. 11(84.62%) institutions were private funded and maximum number of institutions i.e. 9(69.23%) were located in urban areas. Out of the 13 degree pharmacy institutions 9(69.23%) were offering Master degree program also.
- ii. As far as planning activities were concerned 6(46.15%) libraries had library committee, all the 13(100%) libraries had book selection committee. Maximum libraries i.e. 8(61.54%) libraries were maintained irregular library budget i.e. library budget as per requirement. Not a single library had advisory library committee.
- iii. Library space is a very essential component for the management of library and information resources as well. Only 2(15.38%) libraries had more than 3000 sq.

ft. library area, 3(23.08%) libraries had upto 1500 sq. ft. library area and 8 (61.54%) libraries had floor space in between 1501-2500 sq. ft. area. There was only 1(7.69%) library, which was with more than 100 seating arrangement in the library. There were 7(53.85%) libraries which had not any computer for its users.

- iv. For library automation, computers as well as other electronic devices are required but 2(15.38%) libraries didn't have a single computer for the library staff and 5(38.46%) libraries had single computer for the library staff. There was 1(7.69%) library which had four computers for its four library staff members. 9(69.23%) libraries maintained closed access system for its users. Only one (7.69%) library was fully air-conditioned library.
- v. There were 4(30.76%) libraries which had book collection upto 5000 and 9(69.23%) libraries above 5000 book collections, out of these 9 libraries 2(15.38%) libraries had 9001- 11000 book collection. 26-50 current journal titles had subscribed only by 5 (38.46%) libraries and 1-25 current journal titles had subscribed by maximum libraries i.e. 8(61.54%), above 200 bound journals had in the collection of 1(7.69%) library, upto 5 magazine titles had subscribed most of the libraries i.e. 10(76.92%), maximum libraries i.e. 8(61.54%) had subscribed 3-4 daily newspapers for their library.

- vi. As far as electronic resource collection is concerned 5 (38.46%) libraries had no subscription of electronic journals, 11(84.62%) libraries had no collection of electronic books.
- vii. For management of the library, for serving the users, human resources of the libraries played a vital role. Here, under this study there were 7(53.85%) libraries which were run only by one professional staff and 2(15.38%) libraries did not have any library professional staff, 4(30.76%) libraries were there without any non-professional staff and another 1(7.69%) library was there without any library staff member.
- viii. Book classification, preparation of catalogue cards based on the standard schedule was very much essential for proper management and retrieval of library resources and serving the users of the libraries. Out of the 13 degree pharmacy libraries maximum libraries i.e. 10(76.92%) maintained classification and 7(53.85%) maintained cataloguing of library resources. Not a single library had maintained authority file.
- ix. 7(53.85%) libraries had library information management software to maintain in house library activities automatically. Institutional repository, automated indexing and RFID tagging were not maintained by a single library. Though the library software exists in 7 libraries, acquisition process of only 2(15.38%) libraries had maintained in through the library software.
- x. Just 6(46.15%) libraries provided internet access facility to its users, 7(53.85%) libraries provided photocopying facility, 6(46.15%) libraries provided OPAC facility and automated circulation service was provided by 5(38.46%) libraries. Conventional library services i.e. book lending, reading room facility, reference service, CAS/SDI service, instruction for library use, users orientation program and employment related information had been provided by most of the libraries.
- xi. Except one library, all the other ones (12) had followed the class days as library service days, but extended hour library service was maintained by only 1(7.69%) library.
- xii. As far as book availability ratio (total users: total books) is concerned, ratio bellow 20 had been maintained by 8 (61.54%) libraries. Above 40% users of only 2(15.38%) libraries were visiting their library regularly but in case of 6 (46.15%) libraries 10%- 20% users of were visiting their library regularly.
- xiii. Regular stack rectification, binding and dusting of book, preservation and conservation of library resources, computer hardware and software maintenance and security of electrical devices had been maintained by more than 80% libraries but

fire extinguishers and CC TV surveillance had maintained only by 5(38.46%) libraries. 3(23.08%) libraries had provision of checking at library entry door of the library.

For the betterment of the pharmacy profession, betterment of the libraries is very much essential and it can be possible only through the effective improvement or betterment of the information resource centre or the libraries. For the betterment of these libraries, there is a need to increase collection of print and non-print resources; requirement well- trained library professional as well as non professional staff members for doing different kinds of information management related activities and provision of providing required and hackle free services to the users i.e. students and faculty members of the institutions. Library time needs to be extended as per the users' requirement. Financial support is required for the overall development of the degree pharmaceutical college libraries of West Bengal.

## SUGGESTIONS

- On the basis of the need of the present day it can be said that Quality Assurance (QA) or Control is very essential in any kind of education system, especially for technical education as pharmacy courses are mainly practice oriented.
- The library authorities should see that proper infrastructure, resource collection,

services to the users staffing pattern is implemented in the library, recommended by AICTE & PCI guidelines.

- The library authorities should concentrate on the collection development of the library resources in terms of both types (print or non-print) and number as per demand of the users and course program.
- Pharmacy college libraries should subscribe electronic resources and journal as per AICTE and PCI norms.
- For managing information resources and serving the users properly, library authority should take initiatives for providing at least two computers with internet facility for the library staff members and at least ten computers with internet facility for users.
- Pharmacy libraries should concentrate on the library automation activities. They should concentrate on the proper staffing pattern, which was recommended by AICTE/PCI/UGC to provide efficient services to the users.
- Those pharmacy college libraries, who had not applied standard classification scheme for document classification and catalogue code for processing of documents and searching, have to apply both of these for proper organization of library resources and it was also mentioned in the AICTE guidelines.

- All the pharmacy college libraries should provide inter library loan service, indexing service, CAS/SDI service, reprographic facilities, news paper clipping service and OPAC service, open access service, printing service and scanning service to the library users.
- The libraries should identify the non users of library resources, services and facilities and proper steps should be taken to convert them into potential users of the library-resources.
- All the pharmacy college libraries should consider the user's suggestion for improving library utility.
- The libraries should provide extended hours library service, which was mentioned in the NAAC guidelines.
- Institute authority should take different kinds of initiatives like workshop, orientation, refresher course etc. for the development of library staff members also.
- Special training on pharmacy education for the library staff may be helpful for providing library services required for the practical classes, making assignments etc.

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