

# ACCESSIBILITY AND UTILIZATION OF ELECTRONIC VERSUS PRINT BOOKS BY UNDERGRADUATE MEDICAL STUDENTS

**Ghulam Farid**, Senior Librarian Shalamar Medical & Dental College Lahore.

**Sohail Iqbal**, Librarian IBA, Punjab University Lahore.

**Muhammad Ijaz Mairaj**, Chief Librarian University of Engineering & Technology, Lahore.

Date of Received: 10/11/2017

Date of Acceptance: 19/06/2018

## ABSTRACT

**Objective:** The purpose of this study was to find out the differences of accessibility and utilization of electronic (e-books) and print (p-books) books among undergraduate medical (MBBS) students. **Study Design:** Corss sectional study. **Setting:** At Shalamar Medical & Dental College (SMDC), Lahore. **Period:** Sep 2019 to Jan 2020. **Material and Method:** There were 600 MBBS students from 1<sup>st</sup> year to final year and the data was collected from all enrolled MBBS students of SMDC. The data was analyzed using Statistical Package for Social Sciences (SPSS), 20<sup>th</sup> version. **Results:** The study found out that the MBBS students used the e-books for study purpose. In the context of Prof. M. Akhtar Khan Library, SMDC, almost all the study books are available in both formats (e-books and p-books). The accessibility of both formats remains round the clock. It has been noted that, although accessibility to both formats is available yet ease of use factor remained tilted towards p-books. There are indications that the use of e-books may increase in the future while p-books may remain in priority as a learning tool and as reading preference. **Conclusion:** Most of the students were satisfied with usage and accessibility of e-books but they preferred p-books. It is also found that participants preferred hybrid libraries due to accessibility and usage of both types of books.

**Key Words:** Accessibility, ease of use, behavioral intention, e-books, p-books, perception, medical students.

## Correspondence Address

**Ghulam Farid**  
Senior Librarian  
Shalamar Medical & Dental  
College Lahore.  
css\_bcs@yahoo.com

**Article Citation:** Farid G, Iqbal S, Mairaj I M. Accessibility and utilization of electronic versus print books by Undergraduate Medical Students. *IJAHS*, Jan-Mar 2021;01(35-41):01-07.

## INTRODUCTION

Libraries are the source of information. Academic libraries are special libraries which provide information resources to students, faculty and researchers. Information resources may be categorized in two broad forms namely; the traditional print format and electronic format resources based on information technology.<sup>1</sup> According to reported that an authentic website or a tool which is used by users to find out electronic information through this source.<sup>2</sup> From last three decades digital libraries are developing in academic libraries. These digital libraries render information to users and enable them to get access to a variety of electronic resources. The advent of the electronic information has been proved as a valuable source for study and

research.<sup>3,4</sup>

The researcher reported that due to lack of awareness about e- resources which could be provided by the libraries in their campuses at United Arab Emirates University, the format of e-books, e-journals; bibliographies and databases were rarely used by students and faculty members.<sup>5</sup> As per investigated that e-resources were commonly used in Chinese universities due to ease of use, usefulness and accessibility.<sup>6</sup> According to suggested that e-resources were equally useful inside and outside of the library in China universities.<sup>7</sup> The use of e-books saves the money, time; mobility and physical space, and these things are initial inspiration in the favor of e-books. The researcher reported that the

subscription of e-books by the libraries of academic institutions in Pakistan is not regular.<sup>8</sup> Though, Higher Education Commission (HEC) of Pakistan initiated National Digital Library Program in 2004 to provide access to over 40,000 text books to the faculty members and students of non profitable academic organization in Pakistan through Mc Graw Hill Collection, Springer e-books and Ebrary. The National Digital Library Program by the access of databases in Pakistan, improved the library services.

It has been observed through the literature review that the phenomenon of e-book is very important and many studies were carried out on awareness, attitude and use of e- books among faculty and researchers. It is noticed by and reported that medical education is a component of educational system in every culture and society.<sup>9</sup> It plays an important role for the health of every man of the society. We can be ensured that the medical resources and services of doctors which can be depended on latest information and technology about diseases in form of books, journals and databases. "Text in digital form, or digital reading material, or a book in a computer file format, or an electronic file of words and images".<sup>10</sup> According to <sup>11</sup> conducted a study on behavior about adoption of e-books among staff, academia and students at Edith Cowan University (ECU). Quantitative research method was used and survey was conducted for this study. The maximum number of students, staff and academia of ECU were satisfied with the adoption, facilitation and usage of e- books but the users of this university preferred the p-books. The behavior of staff, academic and students about adoption of new technology such as e-books was satisfactory.

The researcher conducted a study on perception and behavioral intention by undergraduate medical students and it was found that the majority of the medical students preferred print format books and also liked hybrid libraries.<sup>12</sup> Another researcher conducted a study on staff

members, faculty members and students of University of the United State of America to prefer the format, accessibility and frequently usage of p-books or e-books.<sup>13</sup> The survey showed that participants preference about p-books format were 79.65% over 20.4% on e-books. The participants preferred to purchase the p- books 53.9% over e-books 46.1% for their study, research and projects. It was also found that the participants preferred the p-books and found them more accessible and convenient in usage as compared to e-books. It was concluded bythat the large number of students was satisfied with adaption of e-books for their academic and research purpose.<sup>14</sup> The daily basis e-book reading habit among engineering students is more frequently as compared to agricultural and social sciences students. They preferred the e-books due to enhance the research and academic skills. This study also concluded that e-books have vital role in the set up of academic libraries in Pakistan.

## **MATERIAL AND METHOD**

The study carried cross sectional research study. The population of study was all undergraduate medical (MBBS) students currently studying at Shalamar Medical & Dental College, Lahore. There were 600 MBBS students (1<sup>st</sup> year to final year) enrolled in SMDC Lahore. Sampling was not done because the researcher covered the whole population for this study. The author asserted "Censuses of population provides essential information on the structure of the population and, in particular, the characteristics of small areas and also covered the whole population".<sup>15</sup> The self administrated questionnaire was used for this study. The reliability value was 0.87Cronbach's Alpha determined through SPSS. The researcher collected the data personally from all the undergraduate medical (MBBS) students. The researcher had given general instructions before filling the questionnaire. The data was analyzed by using SPSS (statistical package for social sciences) version 20. The data was analyzed according to the research objectives.

## RESULTS

The results will present the analysis and interpretation of data collected from 522 out of 600 respondents of SMDC, Lahore. The response rate was 522 (87%). This study found out the difference of accessibility and usage of e-books and p-books among undergraduate medical (MBBS) students of SMDC. This study has also statistically analyzed the difference between three domains of accessibility, ease of use and behavioral intention of e-books and p-books among MBBS students of SMDC, Lahore. The statistical tests were applied including frequencies distribution and paired sample t-test.

**Table 4.1 shows demographic information of gender and class.**

Variables	Levels	Frequency	Percentage
Gender	Male	285	54.6
	Female	237	45.4
Class MBBS (year)	First year	100	19.2
	Second Year	133	25.5
	Third Year	96	18.4
	Forth Year	96	18.4
	Final Year	97	18.6

The males were 285(54.6%) and females were 237 (45.4%) in this study. The response rate of undergraduate medical students were 100 (19.2%) first year, 133 (25.5%) second year, 96 (18.4%) third year, 96 (18.4%) fourth years and 97 (18.6%) final year medical students.

Table 4.2 shows the results from whom users came to know about e-books. The majority of the

Variables	Levels	Frequency	Percentage
From whom come to know about e-books?	Teacher	46	8.8
	Friend	129	24.7
	Librarian	244	46.7
	Internet	103	19.7
Main purpose to use e-book?	Study Purpose	369	70.7
	Research	109	20.9
	Other	41	7.9

students got awareness about e-books from the librarian 244 (46.7%). This table also shows the responses of main purpose to use the e-books. The results showed that 369 (70.7%) medical students used it for study purpose.

Table 4.3 shows that the searching preferences of e-books.. The results showed that 255 (46.01%) of

Variables	Levels	Frequency	Percentage
While looking for books where do you usually start Google search?	College Library	255	46.0
	HEC Digital Library	50	9.6
	Google Books	240	43.1

medical students were searching e-books from college library and 240 (43.1%) were searching from Google books.

The comparison (Table 4.4) using paired sample t-test was conducted to find out significant

Accessibility	E-Book		Print Book		P
	Mean	SD	Mean	SD	
The books are accessible 24/7 round the clock	3.25	1.23	3.31	1.52	.522
The books are available everywhere	3.40	1.30	3.20	1.35	.029
Fast and easy access	3.26	1.18	3.38	1.38	.078
I am satisfied with available books in library	3.44	1.16	3.98	1.15	<.001
I feel difficulty to browse	3.48	1.19	3.97	1.23	<.001
I can't find the relevant book when needed	2.45	1.32	3.00	1.49	<.001

difference between availability of e-books and p-books. The results showed that there was significant difference ( $p < .05$ ) on the basis of accessibility of e-book and p-books. The e-book (mean=3.40, SD=1.30) is more available as compared to p-book (mean=3.2, SD=1.35). For the results of satisfaction level with availability of books in the library, there was significant difference ( $p < .05$ ) between e-book and p-book. The users of p-books (mean=3.98, SD=1.56) were more satisfactory in terms of availability in the library as compared to e-books (mean=3.44, SD=1.16). It was noted that the search of p-books

(mean=3.97, SD=1.23) were more difficult as compared to e-books (mean=3.48, SD=1.19). It was also difficult to find the relevant p-books (mean=3.00, SD=1.49) as compared to e-books (mean=2.45, SD=1.32).

There were no significant differences between p-books and e-books on the basis accessibility 24/7 and fast and easy access of e-books and p-book among medical students.

Table 4.5 shows the comparison of paired sample t-test to find significant difference between e-

easier to reads compared to e-books. The e-books (mean=3.9, SD=1.18) were more prone to soreness as compared to p-books (mean=2.93, SD=1.37). The results showed that e-books (mean=3.57, SD=1.42), with regard to font size were more easy to read as compared to p-books (mean=2.84, SD=1.42). It was found that the students were more satisfactory with the images in p-books (mean=3.34, SD=1.30 were more satisfactory as compared to e-books (mean=2.77, SD=1.32).

## DISCUSSION

The results of the present study about accessibility ease of use and behavioral intension of e-books and p- books have been summed up. Among all the 600 participants, an overall response was 522. The male's response rate was higher than female response rate. The main purpose of using e-books was the study as reported by majority of the users was study. The most of the students searched e-books from college library and the majority of the students used reference e-books and text books. Prof. Muhammad Akhtar Khan library has a large number of e-books collections. It was noted among the respondents, that majority of the students had access to e- books and used them for their study. The main source of awareness of e-books was the librarian. The factor of accessibility and preference of library resources has been widely taken as a serious issue to conclude the user behavior. In comparison between e-books and p-books about the factor of accessibility, the results showed that the available material in library was satisfactory in terms of availability, difficulty to borrow the books and finding the relevant books in library was significant. The means of comparison about accessibility of p-books was higher as compared to e-books among medical students.

books and p- books on the basis of ease of use. The results showed that there was a significant difference ( $p < .05$ ) between e-book and p-books among undergraduate medical students. The p-books (mean=3.76, SD=1.09) were more easy to use as compared to e-books (mean=3.17, SD=1.30). The result showed that p-books (mean=3.31, SD=1.33) were more easy to read as compared to e-books (mean=3.12, SD=1.34). It was found that p-books (mean=3.72, SD=1.22) were more user friendly as compared to e-books (mean=3.2, SD=1.10). The results showed that p-books (mean=3.43, SD=1.31) were more easy to find out required information as compared to e-books (mean=3.26, SD=1.27). It was also found that there were significant differences between p-books (mean=3.42, SD=1.377). The p-books are

This study evaluated the results of accessibility of e- books and p- books factor and preferences about both formats. Most of the medical students preferred p-books due to accessibility and usage

Usage	E-Book		P-Book		P
	Mean	SD	Mean	SD	
The books are easy to use	3.17	1.30	3.76	1.09	<.001
The books are easy to read	3.12	1.34	3.31	1.33	.011
The books are user friendly	3.20	1.10	3.72	1.22	<.001
To read the books is time saving	3.27	1.08	3.32	1.39	.499
It is more convenient to jump to next page	3.17	1.31	3.33	1.28	.052
It is easy to find out required information	3.26	1.27	3.43	1.31	.016
It is easy to read online material instead of print material	3.17	1.29	3.42	1.37	<.001
While reading, I feel eye sore	3.90	1.18	2.93	1.37	<.001
The font size is easy to read	3.57	1.42	2.84	1.42	<.001
I am satisfied with the images in it	2.77	1.32	3.34	1.30	<.001

and the results were compared with other studies like <sup>16</sup> conducted a study on faculty members of US universities in 2012. Most of the faculty members preferred the p-books. The researcher <sup>17</sup> conducted a study at University of the United State of America on preference of the format, accessibility and frequently usage of p-books or e-books. The results showed that participants preferred the p-books format over e-books. It was also found out that the participants preferred the p-books and found them more accessible and convenient in usage as compared to e-books. A study conducted by <sup>18</sup> at University Libraries, Binghamton University, Binghamton, USA revealed that the students preferred the p-books over e-books due to easy access and easy reading. It was reported by <sup>19</sup> that academically many academic institutes used e-resources, books and journals for getting information but the users preferred p-books, journals and resources.

In this study the result shows that the MBBS students had eye fatigue on using e-books over p-books. It is also evaluated that the majority of the students of third year and fourth years have students more accessibility to e-books over p-books. The accessibility rate of p-books was higher in third year and fourth year students.

The factor about comparison in ease of use of e-books and p-books among medical students and findings were satisfactory. The mean of p-books was higher as compared to e-books among medical students of SMDC. The medical students preferred p-books regarding ease of use.

In this study the factor ease of use between p-books and e-books has been evaluated and similar results were found by <sup>20</sup> observed that in recent years it was predicated by many researchers that e-books would dominate in the future and this is true if we consider the dominations of e-journals. The e-books sale has been increased many times in the past decade. The researcher further added that in spite of considerable increase in the use and sale of e-

books, it is still a new concept to a large number of publishers and libraries.

A study conducted by <sup>21</sup> on utilization of e-books among medical undergraduate's students of Lahore showed that mostly students preferred the p-books as compared to e-books. At institutional level, e-books were mostly used for research purpose. The researcher <sup>22</sup> made an investigation on the awareness, usage and attitude of students towards using e-books at the Zhejiang University in China. It was concluded in the study that p-books and prints of e-books were preferred for academic purpose by most of the students.

## CONCLUSION

In the context of Prof. M. Akhtar Khan Library, SMDC, almost all the study books are available in both formats (e-books and p-books). The accessibility of both formats remains round the clock but it has been noted that usage remained tilted towards p-books. Overall behavioral intention was in favor of p-books with slight variations among senior and junior classes. The preference of e-books was significant among senior students but preference rate of junior classes was higher. There are indications that the use of e-books may increase in the future while p-books may remain in priority as a learning tool and as reading preference. Most of the students were satisfied with usage and accessibility of e-books but they preferred p-books. The participants preferred hybrid libraries due to accessibility and usage of both types of books. The analysis significantly indicated that the behavioral intentions of the respondents were inclined towards using p-books in future.

In the context of Pakistan, e-books are quite prevalent in almost all academic and research institution. The medical students knew about the accessibility of e-books and large numbers of respondents were satisfied. The source of awareness of e-books was mainly librarian. Medical students were satisfied with usage of e-books for study purpose due to easy accessibility,



easy usage, easy reading and time saving but they preferred p-books for their study, assignments and research purpose. It was also found that participants preferred hybrid libraries due to accessibility and usage of both types of books in the college library. Most of the respondents' behavioral intentions are inclined towards using p-books in future. This study will be beneficial and provide guidelines to the librarians for focusing on their books- selection priorities.

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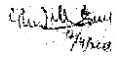
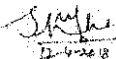
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**AUTHORSHIP AND CONTRIBUTION DECLARATION**

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Ghulam Farid	Concept and design, write up and main researcher	
2	Sohail Iqbal	Data analysis and co- author	
3	Muhammad Ijaz Mairaj	Critical revision of the article and supervisor	