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Use of Open Access Resources during the Covid-19 Lockdown by the Research Students of G.B. Pant University of Agriculture and Technology, Pantnagar (India)

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Use of Open Access Resources during the Covid-19 Lockdown by the Research Students of G.B. Pant University of Agriculture and Technology, Pantnagar (India)

ABSTRACT

During the Covid-19 period electronic resources particularly open access resources were the only source of information for the research students in order to complete their work timely. This present study enquires awareness and use of open access resources during the Covid-19 lockdown period in the years 2020 and 2021. Questionnaire method was adopted to collect the desired data. A total of 180 valid samples were collected and used for data analysis. The result of the study indicates that majority of the respondents were aware and used open access journals, Institutional repositories, consortium based resources, etc. during the lockdown period. Majority of them accepted that open access would lead to easier accessibility of electronic documents. The research students were availed and used all the academic resources, which were within their reach and they suggested to enhancing library services for them to avoid such crisis in future.

Keywords: Open Access Resources, Use of e-Resources, Library Services during Covid-19, Covid-19, Institutional Repository.

INTRODUCTION

Covid-19 pandemic has affected all the corner of the world. It had stopped each and every activity of life during the major prevention took as the lockdown by the various governments. Academic and research institutions were very much affected during these days. In India two times lockdown were took place. First lockdown was in the year 2020 (March to June) and the second was in 2021 (April to June). During the lockdown period electronic resources were only source of information for continuing research work. Researchers were able to access and download open access electronic resources from their place. During the lockdown period, many of the licensed publishers were opened their products for access and download without any login and password.

Open access resources open the doors for the availability of e-resources 24X7 without any restrictions, as they are available in public domain. This platform uses the Internet to access the locked doors that once hide knowledge available freely to all. The number of open access resources including research materials (online journals and databases) has increased markedly over the past two decades. Open access journals allow the users to get them access and download

research articles without any restriction. The authors are motivated to publish their research articles in the open access journals to increase the usage of their articles. Moreover, the publishers also interested to publish the journals in the open access domain. Institutional repositories are also playing a vital role to make availability of publications. Many institutional repositories are currently working and maintained by their parent institutions. They allow authors to self-archive and spread their work in a stable online environment.

This study launched such an enquiry in a community of researcher students of all the disciplines at the G.B. Pant University of Agriculture and Technology, Pantnagar. The focus of this study was analyzing the awareness and use of open access resources for scholarly pursuits by the PhD students, which was only the way during Covid-19 lockdown period in the years 2020 and 2021. It was more important that they access all these resources at their home, and continues their research work without facing the problem of getting sufficient literature.

About GBPUAT, Pantnagar

The first agricultural university of India, named “UP Agricultural University” was established at Pantnagar in the year 1960, by an Act of legislation, UP Act XI-V of 1958. The University was dedicated to the Nation by the first Prime Minister of India Pt. Jawaharlal Nehru on 17 November 1960. Later on in the year 1972 the university was rechristened as Govind Ballabh Pant University of Agriculture and Technology keeping in view the contributions of the former Chief Minister of Uttar Pradesh Pt. Govind Ballabh Pant. The university consist 7 colleges to imparting higher education, research and extension in agricultural science and technology. There are presently more than 500 teachers, 200 research officers/ scientists and over 5000 students in the university.

REVIEW OF THE LITERATURE

Ukwoma and Onyebinama (2020) highlighted that students were aware of open access resources and used them frequently, because these resources saves time and provides literature for their research work. The study of Sahoo and Pandey (2020) analysed the SCOPUS database of last 8 years and found that the significant portion 37.83% of research papers were published in open access journals. The study shows the growing interest among the respondents about the access and use of open access resources. Ally Sornam (2019) examines the use of open access resources by faculty members of Christian Colleges in Kerala. It was highlighted that faculty members of the college were not very much familiar and interested to use open access resources. Lack of awareness and lack of guidance and support were the main impediment in the access and the benefit of open access resources. Another study of Muthuvennila and Thanuskodi (2019) noted that majority of the Library and Information Science students were aware and using open access resources at the Idhaya College for Women and 24.43% of the students were using this for their research purpose. Singh and Srivastava (2019) noticed from their study that more than 80% of the users from the Amity University, Lucknow were aware and using electronic journals and other available electronic resources.

Bala, Bansal and Sharma (2018) found that research articles, theses and e-books were extensively used open access resources for course and research work by the agricultural sciences students of

Punjab Agriculture University. Training and online tutorials can be helpful in overcoming the problems faced by researchers in using OARs. Kurian and Nagarajan (2018) noted that majority 94.59% of the Research scholars from Annamalai University were well aware of different categories of open access resources available on the web. The study also found that electronic journals among the other open access resources were used by majority of the respondents. Muthuvennila and Thanuskodi (2018) study reveals that 100% respondents were aware about the open access resources and 41% respondents accessed information at their home, followed by 28.2% in the library and 23% from other locations. Hegde (2017) noticed that 67% of the respondents were aware about the availability of open access resources in social science research area, but they were not very keen on publishing their research work in open access journals. More than 55% of the respondents responded positively that they get citations of the research publications in open access resources.

Kaba and Said (2015) found that faculty members possess a good knowledge and have a positive perception of OA-resources, and they frequently use OA resources for teaching, learning and research activities. Prince and Saravanan (2015) noticed that Majority (59.4 %) of the respondents uses open access resources for their course related works and most 45.4% of the respondents use open access resources due to it is available at free of cost without any restrictions. Mostly students were moderately aware of the existence of open access resources and they are frequently using these resources (Arosanyin and Ajibili, 2014). Frass and Gardner (2013) explored authors' views about OAR and issues related to the awareness and access of the OAR. A survey opinion poll was used to collect the data It was concluded that the participants think that open access journals present few benefits over other resources i.e., wider spread, higher availability, fastest publication than paid journals. Startlingly, devoid of awareness of such benefits, a little number and few authors showed their intent to have articles published in open access journals. The study of Okoye and Ejikeme (2011) found that majorities (88.89%) of the respondents were aware of open access journals and their benefits, only 13.33% have published articles on open access journals. Study advocated the need of more awareness programs to sensitize librarians of the advantages of open access. Zeng, D. (2010) highlighted the implication of open access journals and related items and probed into the route to the open access, think that the copyright problem, operating outlay, quality controlling problem. It was finally noted that open access, as the potent opponent to the traditional publishing model, will make great progresses under the attention paid by the peers both domestic and abroad.

OBJECTIVES OF THE STUDY

The followings are the main objectives, taken keeping the Covid-19 lockdown when e-resources were very much important for the researchers in order to get continue their research work:

- To know the awareness about the Open Access Resources among the PhD students of the G.B. Pant University of Agriculture & Technology, Pantnagar.
- To analyse the usage of Open Access Resources by Research Students.
- To analyse the use of CeRA Consortium and Krishikosh repository.
- To ascertain the purpose and benefits of using open access resources by users.
- To find out the problems faced by researchers in using open access resources.

METHODOLOGY

Questionnaire method was adopted for the purpose of data collection. Questionnaire contains the questions related to the personal details, awareness and use of open access resources, use of institutional repositories, level of satisfaction, etc. The user population included a total of 902 research scholars presently engaged in the research work at the Govind Ballabh Pant University of Agriculture and Technology, Pantnagar. A total of 180 units (samples) were drawn, which is approximately 20% of the total population. All collected 180 dully filled questionnaire were used for the data analysis. The present study is based on the MLIS project work submitted to the Indira Gandhi National Open University, New Delhi.

DATA ANALYSIS AND INTERPRETATION

The common element measured for this study is the use of open access resources by the research students for their research work particularly during the Covid-19 lockdown period on the basis of the data collected through the questionnaires.

Demographic Description

The user population includes a total of 902 Ph.D. research students presently engaged in the research work at the Govind Ballabh Pant Universities of Agriculture and Technology, Pantnagar. Below given table 1 contains the college wise data related to the number of Ph.D. students enrolled, questionnaire distributed among them and dully filled received/collected during the course of time.

Table - 1: Demographic Description of Research Students

Name of the College	Number of PhD Students	Questionnaire Distributed	Questionnaire Received
College of Agriculture	316	80	67
College of Technology	197	55	36
College of Basic Sciences	163	46	31
College of Veterinary and Animal Sciences	109	33	23
College of Home Science	70	21	14
College of Fisheries	38	12	07
College of Agri-Business Management	09	03	02
Total	902	250	180

It is clear from the above table 1 that 250 (27.71%) questionnaires were distributed among the PhD students of the university and 180 (72%) dully filled questionnaires were received for this present study. This distribution of questionnaire was taken place on the basis of stratified random

sampling among the college wise and department wise population. Data shows very high response rate from the respondents' side for fill up questionnaire.

Awareness and use Internet Resources

Internet became the major source of information in terms of electronic resources available in both restricted and open access. During the Covid-19 lockdown period all persons were depended on the Internet to get fulfill their information needs. Below table 2 contains the data related to the awareness and use of Internet Resources.

Table - 2: Awareness and use of Internet Resources

S.N.	Awareness about Internet and e-Resources	Number	Percentage
1	Yes	157	87.22
2	No	23	12.78

Analysis of the table 2 shows that 87.22% respondents were aware about the Internet and e-Resources, whereas 12.78% users were not aware. It is clear that majority of the respondents were aware about the Internet Resources.

Use of the various services of Internet

This digital era, Internet becomes an important requirement for all. It provides various services in order to fulfil the information needs. Uses of some important services by the respondents are given below in table 3.

Table - 3: Use of the various services of Internet

S.N.	Services of Internet	Number	Percentage
1	E-mail	180	100.0
2	www	180	100.0
3	E-marketing	156	86.67
4	Filling application form	180	100.0
5	File sharing	98	54.44
6	Blogs	43	23.89
7	Cloud computing	26	14.44
8	Audio/Video communication	149	82.78
9	Telnet	76	42.22
10	Social networks	180	100.0
11	Web hosting	27	15.0
12	Any other	55	30.56

Note: Due to the multiple choices question percentage exceeds more than 100.

It is evident from the table 3 that major Internet services e-mail, www, filling application form and social network websites were used by 100% respondents. E-marketing service and Audio/video communication of Internet were used by 86.67% and 82.78% respondents respectively. Other services of Internet used by the respondents mentioned as File sharing 54.44%, Telnet 42.22%, Blogs 23.89%, Cloud computing 14.44%, and not listed services 30.56%. The analysis shows that Internet services are very much popular and highly in use.

Use of Open Access resources available on the web

Billions of e-Resources containing various types of information are available on web freely. These resources includes all the kind of literature like- e-books, e-journals, e-thesis and dissertations, e-newspapers, e-encyclopedia, e-abstracts and indexes, citation databases, e-Government publications, e-patents, e-standards, etc. Users are able to locate easily and access without any restriction. Responses received from the respondents about the use of open access resources are given in below table 4.

Table - 4: Use of open access resources available on the web

S.N.	Use of Open Access Resources	Number	Percentage
1	Yes	167	92.78
2	No	13	7.22

Table 4, shows that 92.78% respondents were used open access resources whereas 7.22% respondents were never used these resources. It is very much clear that majority of the research students were used open access resources.

Frequency of using open access resources

Open access resources are very much easy to use. Users can use it anywhere on their desktop, laptop, tablet and Smartphone. Below table 5, contains the data related to frequency of using open access resources by the respondents.

Table - 5: Frequency of using open access resources

S.N.	Frequency	Number	Percentage
1	Daily	36	20.0
2	2-4 times a week	58	32.22
3	Once a week	73	40.56
4	Occasionally	13	7.22
Total		180	100.0

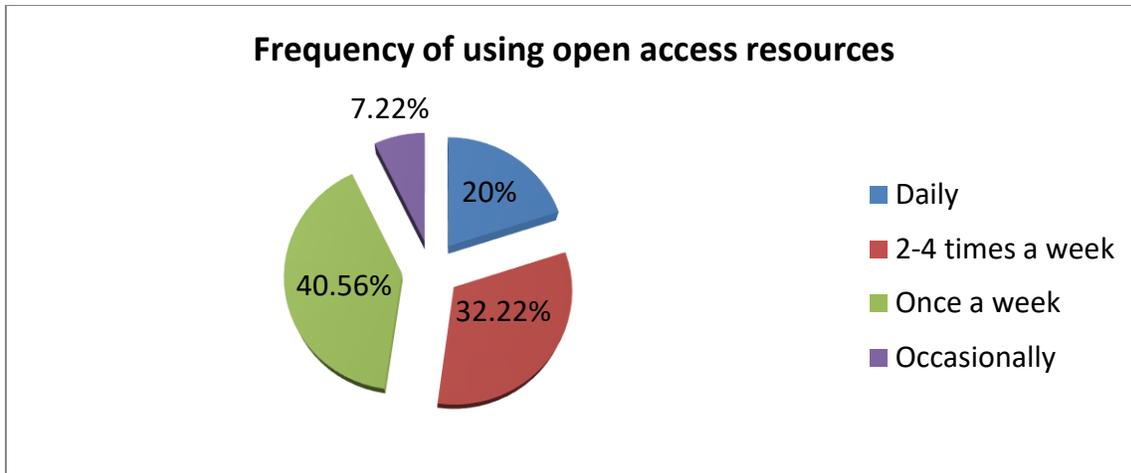


Fig - 1: Frequency of using open access resources

According to the above table 5 and fig 1 that 40.56% respondents used open access resources once a week followed by 32.22% used 2-4 times a week, 20% used daily whereas 7.22% occasionally used open access resources. It is evident that majority of the respondents were frequently used open access resources.

Use of various kinds of information resources

There are varieties of documents available on web. Research students are using them to meet their information requirements. Below given table 6, contains the data related to the use of various information resources.

Table - 6: Use of various information resources

S.N.	Information resources	Number	Percentage
1	Government documents/resources	87	48.33
2	National/ International Institution documents/ resources	108	60.0
3	Open access journals/magazines	124	68.89
4	e- newspapers	129	71.67
5	Full-text databases and Citation databases	168	93.33
6	Indexing Abstracting databases	126	70.0
7	E-Books	103	57.22
8	Data Statistics	30	16.67
9	Companies websites/web resources	95	52.78
10	Any other	81	45.0

Note: Due to the multiple choices question percentage exceeds more than 100.

Table 6 explains that majority 93.33% respondents were used open access Full-text databases and Citation databases followed by 71.67% e-newspapers, Indexing Abstracting databases 70%, open access journals/magazines/newspapers 68.89%, National/ International Institution documents/ resources 60%, E-books 57.22%, Companies websites/web resources 52.78%,

Government documents/resources 48.33%, other not listed documents 45% whereas data statistics only 16.67% used by the respondents.

Use of Institutional Repositories

An institutional repository basically contains the institutional publications. It includes the publication of their employee’s official documents, thesis and dissertations, e-books, projects reports, office orders, gazettes, etc. Some of the IRs in open access and some of them have restricted access. This is very much important for the students that they know about the institutional researches. Below table 7 contains the use of some institutional repositories like Krishikosh, Sodhganga and Sodhgangotri.

Table - 7: Use of Institutional Repositories

S.N.	Institutional Repository	Number	Percentage
1	Krishikosh” Institutional Repository	173	96.11
2	Sodhganga	104	57.88
3	Sodhgangotri	56	31.11

Note: Due to the multiple choices question percentage exceeds more than 100.

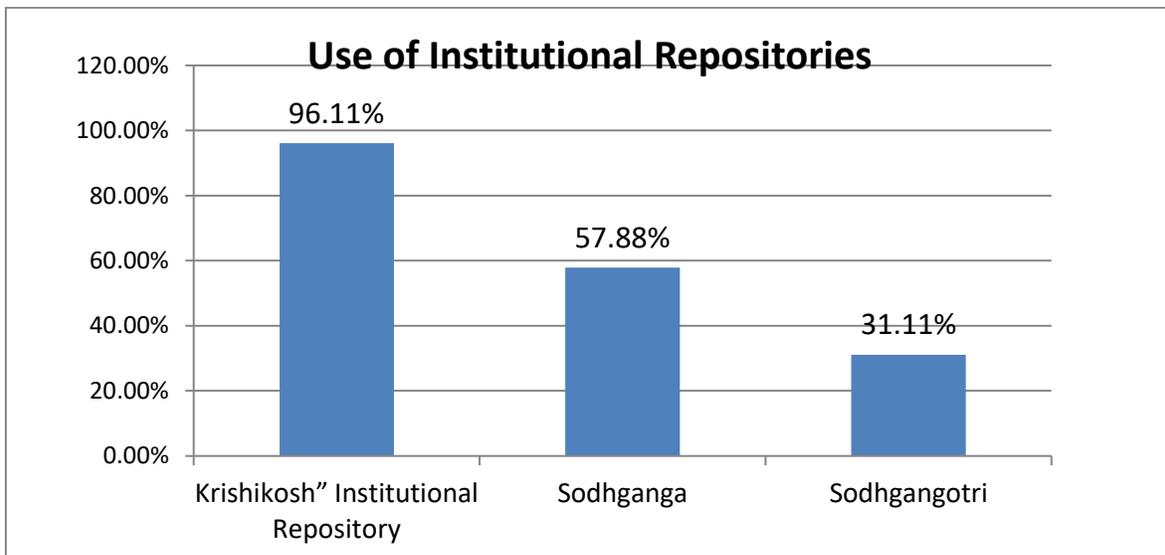


Fig - 2: Use of Institutional Repositories

It is reported from table 7 and fig 2 that majority 96.11% research students were using Krishikosh- Institutional repository followed by 57.88% Sodhganga and 31.11% Sodhgangotri. It is clear that the research students are very much using the thesis and dissertations available in Krishikosh- Institutional repository. The main reason for this use is majority of the students belongs to the agriculture background.

Use of GBPUAT-DSpace Institutional Repository

University Library has established its own institutional repository by using DSpace software for the thesis and e-books available in the library. The collection contains more than 10,000

resources. This repository is accessible throughout the university campus via the KNS-CCF Internet connectivity. Data related to the use of this repository is given in table 8.

Table - 8: Use of GBPUAT-DSpace Institutional Repository

S.N.	Use of “DSpace” Institutional Repository	Number	Percentage
1	Yes	117	65.0
2	No	63	35.0

It is evident from the table 8 that majority 65% research students were used the thesis, dissertation and e-books available through GBPUAT-DSpace Institutional Repository whereas only 35% were not availed this facility that may be due to the lack of awareness among them.

Use of CeRA and N-LIST Consortium

CeRA (Consortium for electronic Resources in Agriculture) is being mandatorily provided by ICAR, New Delhi, whereas the N-LIST consortium is subscribed by the University. Access of the e-Resources of both CeRA and N-LIST Consortium is available throughout the university campus. Below table 9 represents the use of CeRA and N-LIST Consortium by the PhD students of the university.

Table - 9: Use of CeRA and N-LIST Consortium

S.N.	Name of the Consortium	Number	Percentage
1	CeRA Consortium	171	95.0
2	N-LIST Consortium	95	52.78

Note: Due to the multiple choices question percentage exceeds more than 100.

It is found from table 9 that majority 95% and 52.78% of the respondents were using CeRA Consortium and N-LIST Consortium respectively for accessing electronic journals and other e-Resources for their research work.

Purpose of using Open Access e-Resources

Open access resources are very much valuable for the research community. Research students are using this for various purposes in order to fulfill their information needs. Below table 10 contains the related data.

Table - 10: Purpose of using Open Access e-Resources

S.N.	Purpose of using Open Access e-Resources	Number	Percentage
1	Research Work	166	92.22
2	Career Development	102	56.67
3	Current/Up-to-date Information	88	48.89
4	Preparing Seminars/ Conference papers	117	65.0
5	Writing articles	96	53.33
6	Project Work	59	32.78
7	Updating Subject knowledge	82	45.56

8	Other	70	38.89
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Note: Due to the multiple choices question percentage exceeds more than 100.

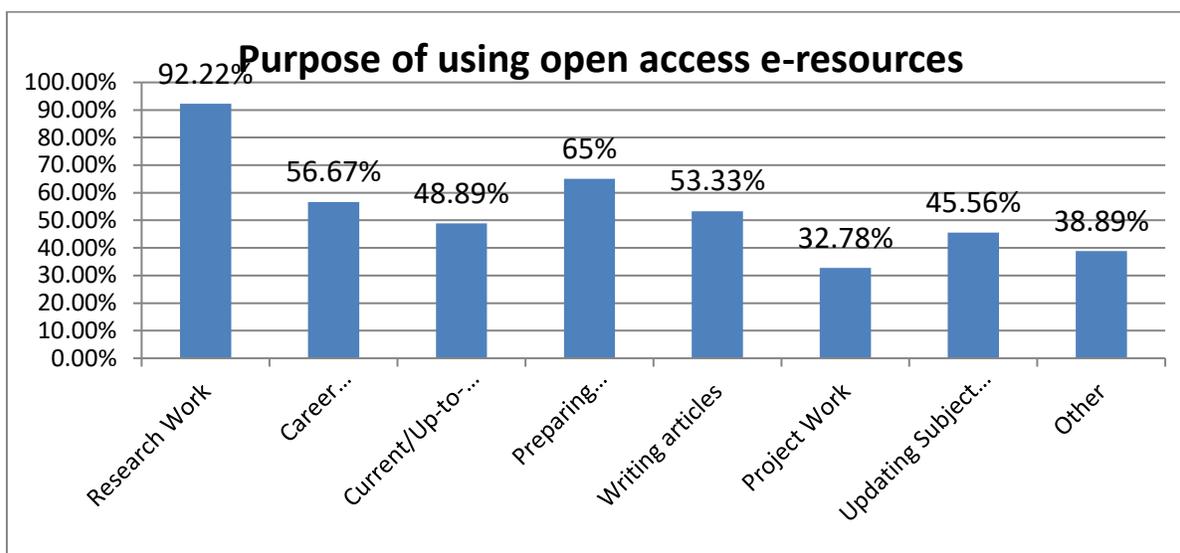


Fig - 3: Purpose of using Open Access e-Resources

Table 10 and fig 3, reveals that majority 92.22% research students were using open access resources for their research work followed by Preparing Seminars/ Conference papers 65%, Career Development 56.67%, writing articles 53.33%, Current/Up-to-date Information 48.89%, Updating Subject knowledge 45.56%, other purposes 38.89% whereas only 32.78% for completing project work. It is evident that majority research students were used open access resources for the purpose of research work.

Benefits of the use of Open Access e-Resources

Open access resources are always beneficial for the users in term to get fulfill their information requirements. Below given table 11, contains the data related to the benefits of the use of open access resources.

Table - 11: Benefits of the use of Open Access e-Resources

S.N.	Benefits	Number	Percentage
1	Time saving	98	54.44
2	Better source of information	119	66.11
3	Improvement in the quality of academic work	103	57.22
4	Access to up-to-date information	90	50.0
5	Any other	57	31.67

Note: Due to the multiple choices question percentage exceeds more than 100.

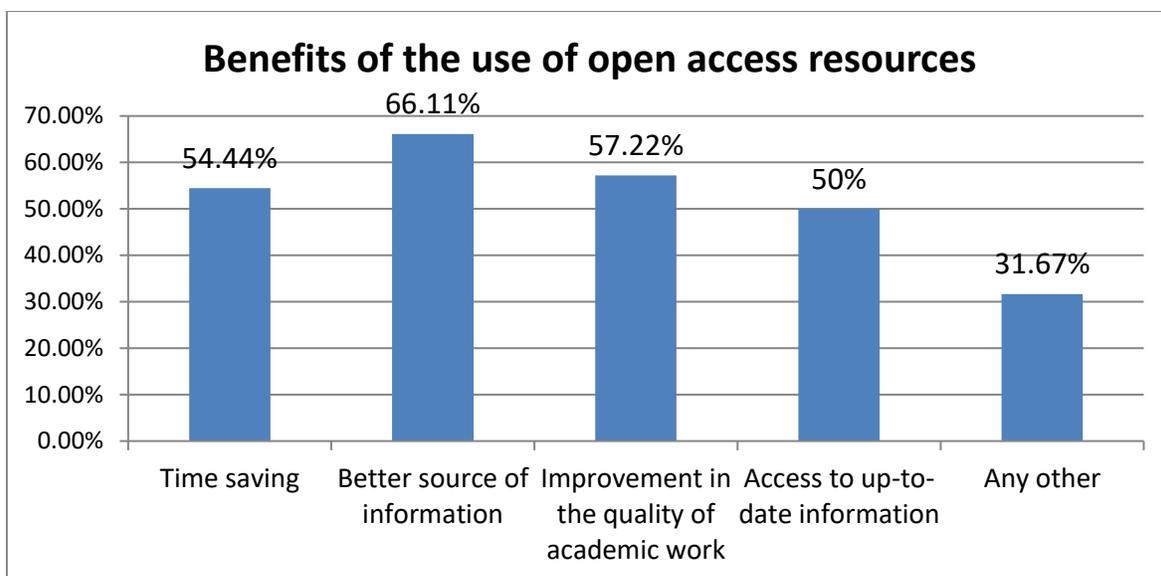


Fig - 4: Benefits of the use of Open Access e-Resources

Table 11 and fig 4, reveals that 66.11% respondents accepted open access resources as better source of information for conducting researches followed by Improvement in the quality of academic work 57.22%, time saving 54.44, Access to up-to-date information 50% and only 31.67% opted other benefits like easy access, freely availability, etc. are the benefits for using open access resources. This way we can conclude that open access resources are beneficial for the research community.

Level of satisfaction with use of Open Access Resources

Respondents were asked about the satisfaction with the resources browsed through the Open Access to meet their information needs, the related data is given in table 12.

Table - 12: Level of satisfaction with the use of Open Access Resources

S.N.	Satisfaction level	Number	Percentage
1	Highly Satisfied	43	23.89
2	Satisfied	64	35.56
3	Average Satisfied	35	19.44
4	LeastSatisfied	13	7.22
5	Not Satisfied	25	13.89

Note: Due to the multiple choices question percentage exceeds more than 100.

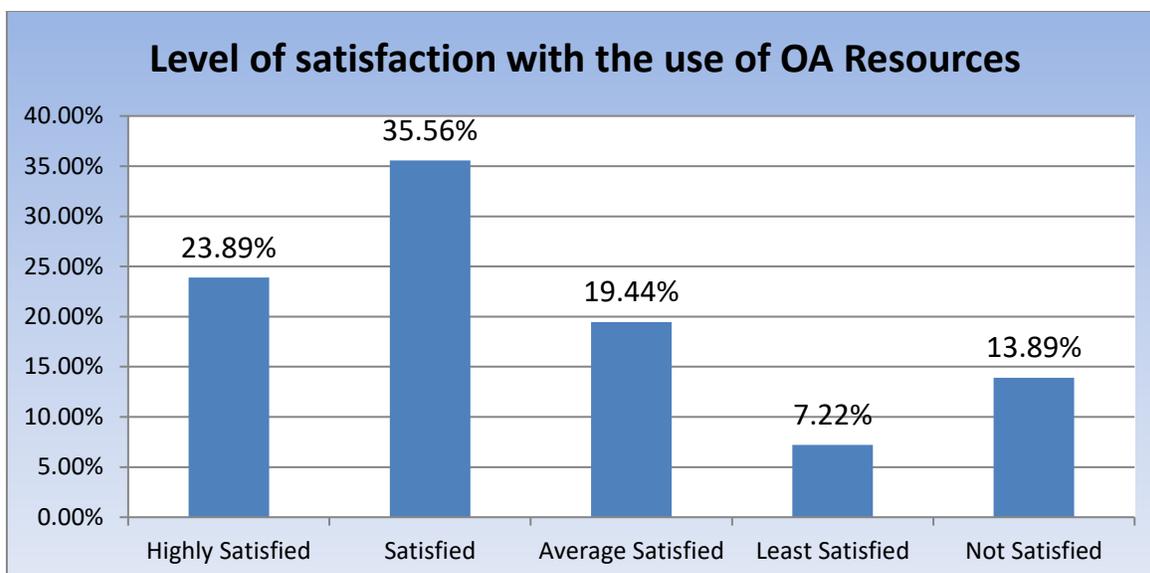


Fig - 5: Level of satisfaction with the use of Open Access Resources

It can be observed from the table 12 and fig 5 that 23.89% respondents were highly satisfied with the resources browsed through open access, 35.56% were satisfied, 19.44% were averaged satisfied, 7.22% were least satisfied, whereas 13.89% were not satisfied with open access resources. It is evident that most of the respondents were satisfied with the browsing open access resources.

Problems faced in the use of Open Access resources

Open access resources regarded as a valuable source of information basically for the researchers. Sometimes difficulties comes during the accessing these information sources. Table 13 contains the data related to the problems faced by the respondents.

Table - 13: Kinds of problems faced in the use of Open Access resources

S.N.	Problems	Number	Percentage
1	Poor connectivity	47	26.11
2	Retrieval of irrelevant information	41	27.78
3	Server down or system problem	23	12.78
4	Change in URL	13	7.22
5	Change of content information	26	14.44
6	Unorganized information content	23	12.78
7	Lack of IT Knowledge	20	11.11
8	Other kind of problems	27	15.0

Note: Due to the multiple choices question percentage exceeds more than 100.

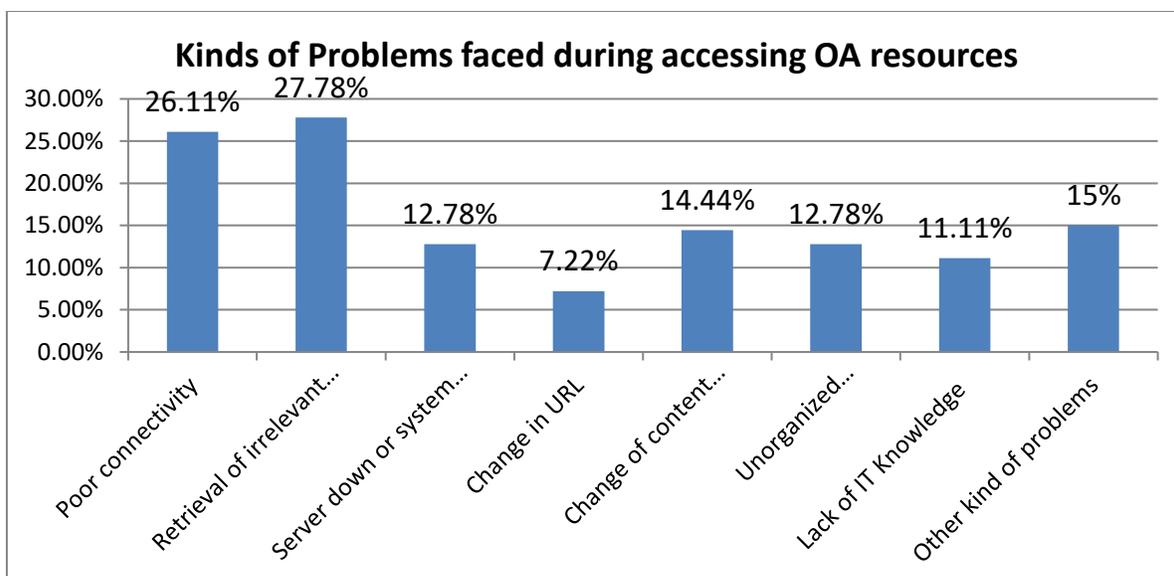


Fig - 6: Kinds of problems faced in the use of Open Access resources

It is noted from the above table 13 and fig 6 that Retrieval of irrelevant information was a major problem during the use of open access resources as marked by 27.78% respondents followed by Poor connectivity 26.11%, other kinds of problems like downloading, etc. 15%, Change of content information 14.44%, Server down or system problem and Unorganized information content both 12.78%, whereas Lack of IT Knowledge 11.11% only.

Success rate of relevant information retrieved

A lots of information available in open access on the Internet. Sometimes all downloads are not relevant for the users. Table 14 contains the data related to the success rate of relevant information download through the open access resources.

Table - 14: Success rate of relevant information retrieved

S.N.	Retrieved relevant information	Number	Percentage
1	Very High	28	15.56
2	High	53	29.44
3	Average	77	42.78
4	Poor	22	12.22
Total		180	100.0

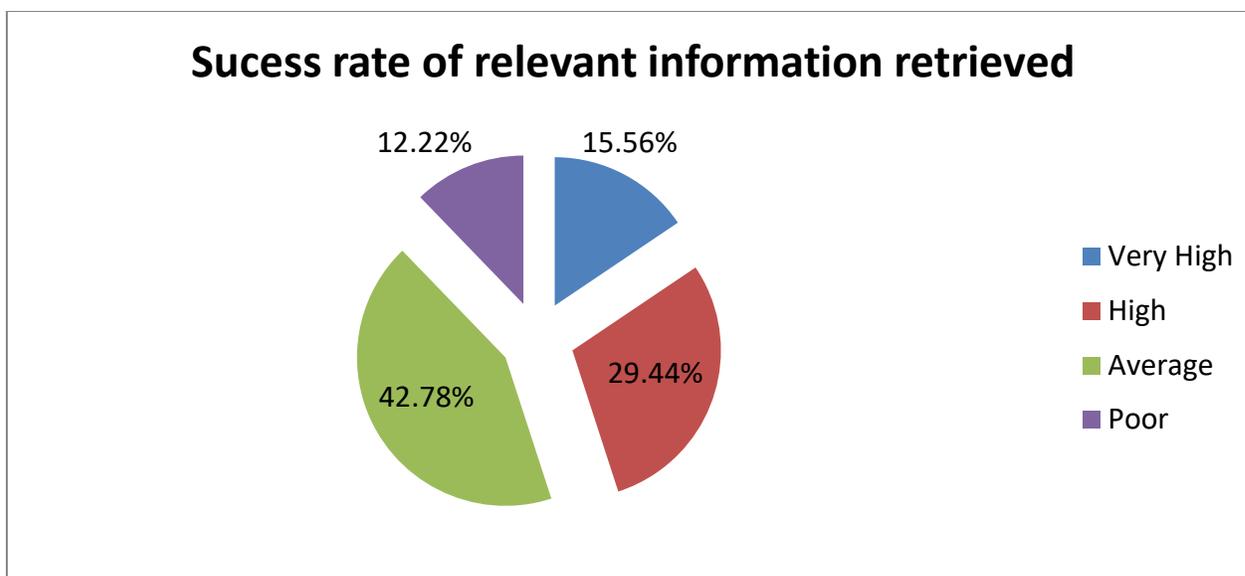


Fig - 7: Success rate of relevant information retrieved

It is clear from the above table 14 and fig 7 that the success rate of relevant information retrieved is average as answered by the majority 42.78% of the respondents, followed by high 29.44%, very high 15.56% whereas poor replied by only 12.22% of the respondents. It is concluded that success rate of relevant information retrieved was excellent.

MAJOR FINDINGS OF THE STUDY

This present study was conducted on the PhD students of the Govind Ballabh Pant University of Agriculture and Technology, Pantnagar (India). On the basis of analysis and interpretation, followings are the major findings of the study:

- It was found that very high 72% response rate of the returning filled questionnaire, which was distributed for the purpose of data collection.
- It was noted that majority 87.22% respondents were aware and used Internet Resources during the Covid-19 lockdown period in order to get fulfilled their various information requirements.
- Majority 100% PhD students were several times used popular services of Internet like e-mail, www, filling application form and social network websites, which shows the usability of Internet among the respondents.
- Doing research work by 85% of the respondents and attending online classes by 60% of the respondents were the main purpose of using Internet. It is clear that majority research students used Internet for their academic works rather than e-marketing, chatting, etc.
- 92.78% respondents were used open access resources, which includes almost all the kind of literature like- e-books, e-journals, e-thesis and dissertations, e-newspapers, e-encyclopedia, e-abstracts and indexes, citation databases, e-Government publications, e-patents, e-standards, etc. It is very much clear that majority of the research students were used open access resources.

- It was noted that majority 40.56% respondents were used open access resources once a week followed by 32.22% used 2-4 times a week and 20% used daily. It is evident that majority of the respondents were frequently using open access resources.
- It was seen that majority 93.33% respondents were used Full-text databases and Citation databases followed by 71.67% e-newspapers, Indexing Abstracting databases 70%, open access journals/magazines/newspapers 68.89%, National/ International Institution documents/ resources 60%, E-books 57.22%, Companies websites/web resources 52.78%, Government documents/resources 48.33% and 45% respondents used other not listed e-documents. This shows the very high frequency of using Full-text databases and Citation databases available in open access.
- Majority 96.11% research students were used Krishikosh- Institutional repository followed by 57.88% Sodhganga and 31.11% Sodhgangotri. It is clear that the research students were very much aware and using Krishikosh- Institutional repository being provided in open access by the ICAR, New Delhi.
- It was found that 65% research students were used the thesis, dissertation and e-books available through GBPUAT-Dspace Institutional Repository. This shows the importance of awarded thesis used by the respondents during the Covid-19 lockdown period.
- Majority 95% and 52.78% of the respondents were used CeRA Consortium and N-LIST Consortium respectively for accessing electronic journals and other e-Resources for their research work. It is clear that these resources were very much useful and frequently used by the research students of the GB Pant University of Agriculture and Technology, Pantnagar.
- It was noted that majority 92.22% research students were used open access resources for their research work followed by Preparing Seminars/ Conference papers 65%, Career Development 56%, writing articles 53.33% and 48.89% used for Current/Up-to-date Information. It is evident that research work was the main purpose for using open access resources by the research students.
- It was evident that 66.11% respondents accepted open access resources as important source of information for conducting researches followed by Improvement in the quality of academic work 57.22%, time saving 54.44 and 50% marked as access to up-to-date information. It is conclude that open access resources were very beneficial for the research student in many terms.
- Majority 86.11% research students were satisfied with the use of resources browsed through open access. It is evident that most of the respondents were satisfied with the browsing of open access resources.
- It was analyzed that 87.22% respondents were accepted that open access resources were very much helpful during the Covid-19 pandemic lockdown and majority 75.56% were evident that these resources were fulfilled their more than 45% information requirements.
- Majority 27.78% respondents were reported retrieval of irrelevant information and 26.11% marked Poor connectivity were the major problems during the use of open access resources.
- Success rate for relevant information retrieved is average as answered by the majority 42.78% of the respondents, followed by high 29.44%, very high 15.56% whereas poor replied by only 12.22% of the respondents. It is concluded that success rate of relevant information retrieved was good.

CONCLUSION

In this modern digital age, information became the fifth fundamental requirement along with the food, water, clothing and shelter. If the information is available freely then more and more peoples will be benefitted. Open access resources are very much important for education and research. Millions of the documents are currently available on the web that can be accessed without any restrictions and limitations. These resources are increasing day by day in the last two decades throughout the world. The study has analyzed the awareness, usage, tool, and barriers of Ph.D. students towards Open Access Resources. During the lockdown period university library reaches to all the students by its online services such as web OPAC, DSpace Institutional Repository and thousands of subscribed e-resources and citations databases. The findings of the study shows that all the students were get benefitted by the use of open access resources during the Covid-19 lockdown period. Along with this they also used Institutional repositories - Krishikosh and local repository DSpace. Some of research students used tutorials and other learning mechanism for the use of open access and they were got succeed in this work and many of the needed training for the use.

Many survey respondents cited the support or lack of support from their institution as a contributing factor in their professional use of open access resources, especially regarding teachers encouraging authenticating such resources. About the institutional support of open access publishing might shed more light on the question of what factors influence research student's to the professional use of open access resources. Further research in this area could explore the ways in which institutions can encourage the teachers to take on the role of teaching students about open access publishing opportunities.

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