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***Physician's perspective towards ICT application in the central library of NEIGRIHMS,
Meghalaya, India: a study***

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Abstract: The present study revealed about the physicians perspective towards ICT application in the central library of NEIGRIHMS, Meghalaya. Medical library has been developing day by day in this technological epoch. The present study was limited only for physicians both in clinical and non clinical sections. The study was conducted by simple random sampling and data were collected by using questionnaire method from the physicians. It was noticed that 85% respondents provided responses and the received responses were analyzed and tabulated in various sections. The findings showed that physicians purpose of library usages, their attitude, impact of ICT, techniques for searching e-resources, difficulties in using the library & satisfaction level etc. The role of medical librarian is very crucial for dissemination of advanced library services in this digital environment. Physicians retrieved the recent information relating biomedical science field with the help of emerging e-resources, medical library databases & consortium. The study will help to know the ICT impact in the library and its effectiveness among the medical fraternity of NEIGRIHMS in Meghalaya state.

Keywords: *ICT, Medical library, Medical Librarian, NEIGRIHMS, Physician's perspective, E-resources, Consortium.*

Introduction:

North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences (NEIGRIHMS) was registered in 1987 under the Meghalaya Society Act which was established by the Ministry of Health & Family Welfare, Government of India. In the memory of former Prime Minister of India Late Smt. Indira Gandhi, the foundation stone was laid by Late Shri Rajiv Gandhi, Hon'ble Prime Minister of India. The central library was established in 2005. In 2008, MBBS course was first introduced under affiliation of North Eastern Hill University (NEHU), a central university of Meghalaya state. After one year in 2009, MD/MS courses were introduced for teaching the PG courses. Later on post doctoral program (DM) was introduced in 2012. Both MBBS and nursing course is running in NEIGRIHMS campus which has been recognized correspondingly by Medical Council of Indian (MCI) and Indian Nursing Council (INC). Besides these two courses paramedical course is also offered in this institution. This institute is one of the national level institutes in the entire North Eastern Region (NER).

Medical libraries are special libraries which serving the users related with medical science professionals and students. A medical library is the hub of information sources and services for the biomedical sciences related to patient care treatment information sources, medical ethics, medical education, hospital management and administration, Tele-medicine, etc. Information and communication technology (ICT) is one of most motivating aspect for the development of a library. There is need of introduction of ICT in the medical library to provide the most up-to-date and advance services to the users. The new emerging technologies have transformed the traditional library system and services into digital library/electronic library. The medical librarian also has been providing lots of inventive and advanced services to the users of medical fraternity in digital era. The role of a medical librarian is very crucial for delivering the latest information services and sources to their respective users at right time. Internet is the prime service in ICT system by which one can retrieve unlimited information allied to the new trends of pertinent subject. In medical library with the application of ICT a variety of medical databases and medical consortium has been linked up for the swift accessibility of information.

Literature review:

Some important literature reviews has described as follows to know the study about the researcher's relevant topic.

Baskaran, C. (2011) has explained about the importance the internet for the users. The users can access the scholarly publishing by using internet. Users are highly interested in accessing e-resources by yahoo search engine. Users basically used the library for preparation of seminar, conferences, workshop and paper presentation etc.

Nzivo, C.N. (2012) has described about the effective management of library services, internet based services and web based information resources etc in Kenyan Public Libraries. Users mainly prefer the latest printed collections for their relevant study. The author has surveyed the adult users perception towards the library usage of Kenya National Library Service (KNLS)

Saleem, A., Tabusum, S. Z., & Batcha, M. S. (2013) has expressed in their paper about application and use of ICT in the library. Here the authors emphasized to reveal the ICT impact and library usage pattern of professional and non professional users of academic college libraries in Chennai. Ojo, A. (2014) elaborated in paper about the role of medical librarian in ICT era. In this paper the author described about the ICT and its use in library services, difference between traditional library and ICT based library, its benefits etc.

Bhoi, N. K. (2017) has described in the conference paper about the different library services like RFID technology, Remote-XS, QR code usages and library automation facility and its usefulness in the library. The role of ICT is very indispensable for the dissemination of vast information. The author also has stated about the importance of Institutional repositories for documentation of respective institutional resources.

Swapna, C., J. J., & Manjula, P. (2017) has described about the users perception and attitude towards their university library of Mysore. Here the authors have highlighted about the library services, resources and infrastructure of the central library. Users are highly recommended for the new ICT related library services and sources due to development of latest rising technologies.

Ankamah, S. , Akussah, H. & Adams, M.(2018) has detailed about the importance of ICT facilitated services for the post graduate students for their easy accessibility of information, time saving, simple handling of electronic information etc. The author also affirmed that the existing ICT facilities of universities has been supervised by the library authorities frequently.

Rao, A., Rao, M., & Bhat, S. (2018) has elaborated in their paper about the reading behaviour of e-books, circulation system of e-books, and preference of e-books formats. Different User gives the preferences of dissimilar formats in usages of library books. Users

have viewed about the library website for easy and quick distribution of current important information.

Objectives: Following are the objectives for the present study.

- 1.1 To identify the physicians opinion about the ICT based resources and services of central library of NEIGRIHMS.
- 1.2 To know the physicians technique for accessing information in the central library of NEIGRIHMS.
- 1.3 To evaluate the prerequisites of training for accessing the ICT based library services by the physicians in the central library of NEIGRIHMS.
- 1.4 To find out the impact of ICT application in the central library of NEIGRIHMS by the physicians.
- 1.5 To recognize the difficulty faced by the physicians in use of ICT based services provided in the central library in NEIGRIHMS.
- 1.6 To know the satisfaction level of physicians by using the central library of NEIGRIHMS.

Scope and limitations of the study:

In the present study the researchers has indicated the physician's perspective about the ICT application in the central library of NEIGRIHMS, Shillong. The study has been limited only for the physicians both in clinical and non clinical section in NEIGRIHMS to know their perception of library usages though there are other users like MBBS & PG students, internship, nursing & paramedical etc.

Need of the study:

As NEIGRIHMS is one of the national level importance institution in NER and for that there is significance to know the perception of physicians about their central library. There are various modern technologies which have been rising due to rapid changes of ICT in this digital era and the library is also not escaping from these latest technologies. Though physicians are very busy for their duty along with the patient care treatment yet they need too much aware about the latest emerging literatures, resources both online and print media and also various medical databases & apps. Physicians always need latest information about the

medical education and research related. The physician's frequently attend the continuing medical education (CME) and competency based medical education (CBME) to keep abreast themselves with the current information and medical research. The library is the main hub of medical institutions which serve the medical science students, physicians and faculty members by delivering new innovative services and upcoming information sources. For being updated knowledge about the medical information the physicians need to visit their library in spite of their busy schedule in the hospital. Today's the physicians can access various e-journals, e-books, e-databases in very short duration.

The present study is needed to know the outlook of physician's usages of ICT in library, its applications, and view about the impact of ICT in library, needs of training in accessing the e-information, purpose of library usages and problems & satisfaction level etc. The study was mainly conducted to know the physicians perception as well as the original existing ICT facilities in the central library.

Methodology:

The data has been collected from the physicians only by surveying the questionnaire method. Physicians were selected randomly. Total 80 questionnaires were distributed among the physicians by distributing print questionnaires and Google Forms to the physicians in respective departments of NEIGRIHMS. Out of 80 questionnaires, 68 responses were received. The survey has been conducted in between the month from March to May 2019.

The Google Forms were sent through WhatsApp and e-mail to the different categories of physicians. And the questionnaires were distributed through personally with the help of library staff of central library, NEIGRIHMS.

Data analysis:

The collected data were analyzed in tabular form in different parts from the received responses by the physicians. The collected data were analyzed and interpreted in different tabular form. Out of 80 questionnaires only 68 (85%) responses were received.

From the figure:1 it is noticed that 47 (69.11%) respondents are male and 21 (30.88%) are female respondents.

Fig 1: Distribution of questionnaires by genders

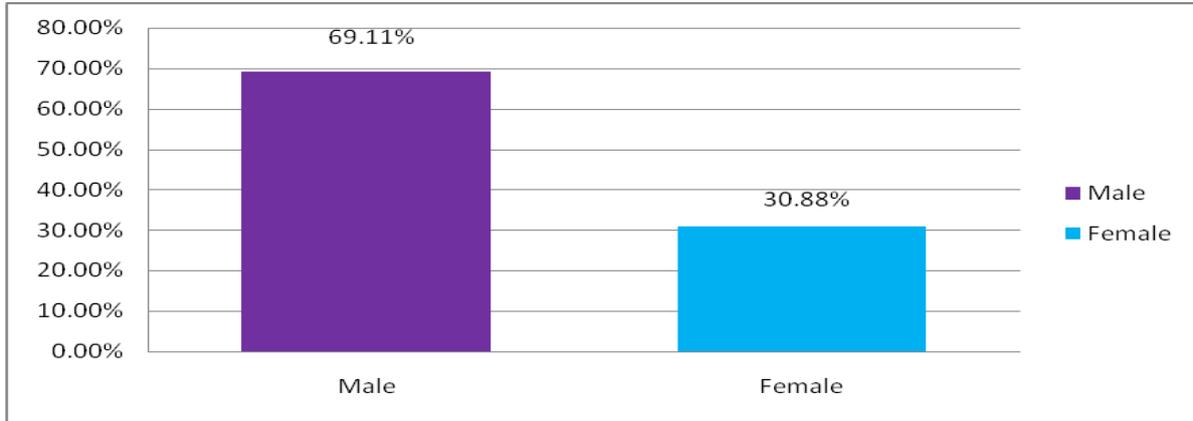
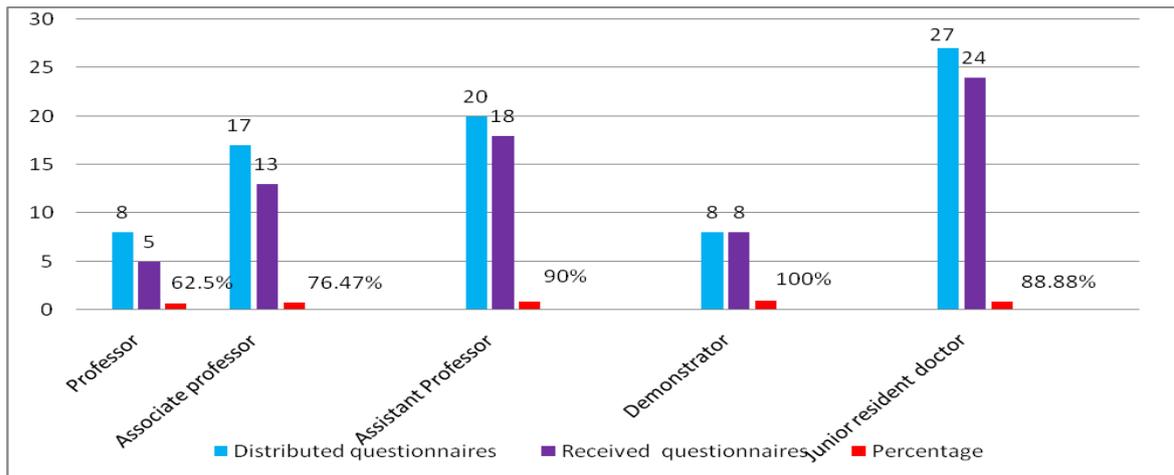


Table 1: Distribution of questionnaires in different categories of physicians

Category	Distributed questionnaires	Received questionnaire	Percentage
Professor	8	5	62.5%
Associate Professor	17	13	76.47%
Assistant Professor	20	18	90%
Demonstrator	8	8	100%
Junior Resident Doctor	27	24	88.88%

Fig 2: Physicians category wise questionnaires distribution



The questionnaires were distributed among the physicians both in clinical and non clinical sections. From the fig: 2; it is found that 62.5% professors, 76.47% associate

professors, 90% assistant professors, 100% demonstrators and 88.88% junior resident doctors have given the responses of the questionnaires.

Table 2: Purpose in usages of the library by physicians

Purpose	Respondents	Percentage
For accessing e-resources	26	38.23%
To do preparation for the seminar/ conference	17	25%
For printing the required e-documentrts	8	11.76%
For consulting with the latest print collections	25	36.76%
For preparation of PG course	19	27.94%
For borrowing documents	23	33.82%
For reading	20	29.41%
For using medical databases	27	39.7%

From the above table it is cleared that 38.23% respondents use library for accessing e-resources, 25% users use for preparation of seminar/ conference paper, 11.76% users use for printing e-documents, 36.76% users use for consulting the latest print resources, 27.94% users use for preparation of PG courses, 33.82% users use for borrowing documents, 29.41% users use for reading and 39.7% users use for medical databases. Here it is found that highest numbers of users use the library for medical databases, for accessing e-resources and for consulting the latest print collections.

Table 3: Opinion about the ICT based library services by the physicians

Library Services	Excellent	Good	Average	Poor	Very poor	Mean value
Internet service	38	14	-	-	-	4.73
Circulation service	20	12	6	-	-	4.36
Chat service	8	12	7	10	-	3.48
SMS Alert Service	9	21	15	-	-	3.86
Web OPAC	18	9	4	-	-	4.45
Wi-Fi	20	9	6	-	-	4.4
Document Scanning Service	16	8	11	-	-	4.14
Electronic Document Delivery Service	13	19	13	6	-	3.76
Institutional Repository	7	15	6	-	-	4.03
Library Blog	31	19	-	-	-	4.62
E-Newspaper Clipping	17	23	8			4.18
Content Page Alert Service	37	11	-	-	-	4.77
Reprographic service	29	16	10	-	-	4.34
Library Consortium	34	13	5	-	-	4.55

***(Excellent =5, Good = 4, Average=3, Poor = 2, Very poor=1)**

From the above table it is found that physicians have provided a good opinion about the central library of NEIGRIHMS. Here it is seen that the physicians have excellent opinion about the internet service, Web OPAC, reprographic service, content page alert service, library blog and library consortium. Physicians attitude to the library services is good due to implementation of ICT. Previous tradational library services has changed into modern ICT based library services in the central library of NEIGRIHMS with the application of ICT.

Table 4: Techniques for searching the e-resources by the physicians

Techniques for searching e-resources	Respondents	Percentage
By using keywords/titles	39	57.35%
From medical databases	31	45.58%
By using medical consortium	57	83.82%
Through subject search engine	17	25%

Physicians used the techniques for accessing the e-resources within short period. From the above table it is noticed that 83.82% physicians used the medical consortium, 57.35% physicians used the keywords/ titles, 45.58% physicians used medical databases and 25% physicians used subject search engine for accessing e-resources.

Table 5: Prerequisite instructions in using ICT based library services by the physicians

Prerequisite instructions	Respondents	Percentage
Training about the accessibility/download of e-resources	49	72.05%
Need of orientation program on library usages	68	100%
Workshop on ICT and its use in library with the help of expert person	34	50%
Awareness program about the medical library consortium/medical databases	28	41.17%

Physicians need some instructions for using the library so that they can access the services without any problem. 100% Physicians need library orientation program for proper usages of the library. 72.05% physicians need training about the accessibility/download of e-resources, 50% physicians need workshop on ICT for the library usages, 41.17% physicians need awareness program about the medical library consortium/ databases.

Table 6: Physicians attitude about the impact of ICT in the library

Impact of ICT	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Mean value
Advance library services	28	23	7	-	-	4.36
Optimum utilization of library	21	11	19	-	-	4.03
E-resources collection	33	20	5	-	-	4.48
Quick information accessibility	38	18	7	-	-	4.49
Time saving in retrieving information	29	32	-	-	-	4.47
Availability of latest information sources	24	19	5	-	-	4.39
Multiple e-resources in various formats	29	17	8	-	-	4.38

***(Strongly Agree =5, Agree = 4, Undecided=3, Disagree = 2, Strongly Disagree=1)**

From the above table it is noticed that physicians are strongly agree about the impact of ICT in the central library in some respective ground. Application of ICT in the central library of NEIGRIHMS has contributed a fine services to the user community. Physicians can access the e-resources at very less time. They have retrieved the latest information very quickly and advance library services than earlier. As a whole physicians have good attitude about the ICT impact in the central library in NEIGRIHMS.

Table 7: Physicians difficulty in using of ICT based library

Difficulty	Respondents	Percentage
Unable to access e-resources	12	17.64%
Lack of time	27	39.7%
Scarce of e-resouces	-	-
Lack of cooperation from the library personnel	-	-
Slow net connectivity	5	7.35%
Limited knowledge about the usages of ICT tools	7	10.29%

Physicians also faced in trouble for accessing the library usages due to different reasons. From the above table it is seen that 39.7% physicians have lack of time, 17.64% physicians faced problem in accessing e-resouces, 10.29% physicians have limited knowledge about the usages of ICT tools and 7.35% physicians found slow net connectivity.

Table 8: Physicians satisfaction level by using the library

Level of satisfaction	Respondents	Percentage
Very fine	46	67.64
Good	17	25%
Moderate	5	7.35%
Poor	-	-

From the above table it is noticed that physicians are overall satisfied by using the library of NEIGRIHMS. 67.64% physicians have very fine satisfaction, 25% physicians have good satisfaction and 7.35% have moderate satisfaction by using the library.

Findings of the study

1. NEIGRIHMS library has been providing various services to the physicians regarding the ICT based library services like Web OPAC, RFID gate security system, RemoteXs Platform, Institutional repository, e-newspaper clipping

facility, library blog, internet service, reprographic service, Wi-Fi service, document scanning service, content page alert service, chat service etc.

2. Physicians use the library for accessing e-resources, for preparation of PG course, for using medical databases, for accessing e-journals, for printing the needed e-documents, for preparation of seminar/conference papers.
3. Library orientation program is one of the most essential methods for the physicians so that without any difficulty they can access the library services. They also need of training for accessing/downloading the e-resources, awareness program about the medical consortium/databases. It may be mentioned that ERMED consortium provided by National Medical Library (NML), New Delhi has been conducting the user awareness program or workshop periodically on usages of e-resources.
4. Physician's attitude about the impact of library services is overall good. Physicians have provided good opinion about ICT impact like e-resources collection, utilization of library services, quick accessibility of information, time saving, and availability of latest information in multiple formats in central library. They strongly agreed about the impact of ICT in central library services.
5. Central library, NEIGRIHMS has been providing a good collection of e-resources i.e 6430 e-books, 2990 e-journals, 20 numbers medical e-databases etc. Telemedicine facility is also provided within the central library in separate section by skilled professional staff. There is 24*7 reading area closest to the main library for the facilitation of users.
6. Central library of NEIGRIHMS has been providing the library services to the non-NEIGRIHMS members from different parts of country for research and other official purpose. Higher authority may take decision for library consultation of non members by providing temporary card at nominal fee.
7. In house workshop on e-learning has been conducted by the cooperation of technologically expert physicians and higher authority of NEIGRIHMS. Through this workshop, PubMed search and reference management system has been taught amongst the physicians and other students also.
8. Physicians gets some difficulty like unable to access e-resources, lack of time, limited knowledge about the usages of ICT tools etc. Their satisfaction level of library usages is overall very nice.

Suggestions:

1. Need of regular training about the ICT and other emerging technologies so that physicians can easily approach to the library services.
2. User orientation program should be conducted for physicians also as they have need different instructions for using the library.
3. Alertness program regarding library services should also be conducted along with Faculty Development Program (FDP) for the physicians.
4. Maximum e-resources, online medical databases should be included so that physicians may access vast amount of information easily.

Conclusion:

Physicians are the most essential human resources in any kind of medical institutions to provide the better services for the society. NEIGRIHMS was declared as “Centre of Excellence” by Parliament on 3rd January, 2007. The central library of NEIGRIHMS is one of the finest libraries among the medical institutions in NER. It has been catering a quality based library services to the physicians. ICT is the boon for developing a library by which physicians can stay connected with the latest emerging literatures. The promising ICT facilities in central library have provided a good contribution to the physicians by which they are able to access trustworthy services. In library ICT is not only technology but also connecting point towards the whole user community in disseminating right information at right time.

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