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# A Content Analysis of Websites of Indian Medical Research Institutions in respect to Library Services in COVID-19 Pandemic Situation



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## Abstract

The Corona Virus Disease (COVID-19) unique challenges to all the educational system in present time. The unexpected and suddenly outbreak of library professionals for the COVID-19 to general working time. The library professional takes some other dissonance for continuing library service like digital platform wherever possible and to provide adequate remote services to the users. Given the extrinsic challenges in providing services during a public health emergency, the purpose of this paper is to find out how medicine and technology became a saviour for the medical research institutions of India during the COVID -19 pandemic. The study explores the type of services provided by libraries of Indian Medical Research Institutes based on the contents published on their web-pages.

**Keywords:** Medical Research Institutes Library, COVID-19, Remote Services, Virtual Services, Content Analysis.

## Introduction

The COVID-19 pandemic has forced governments worldwide to place their countries in full or partial lockdown to contain the spread of the virus. However, these lockdowns came with severe economic and social consequences, which has also presented unique challenges in the educational sector and has forced not just students but also policy makers and service providers including the librarians to adapt and adopt technology as a viable and valuable option to ensure fulfillment of the educational needs of the stakeholders and in overcoming various hurdles in this pandemic time. "At 8 pm on 24 March, Prime Minister Narendra Modi announced that India would shut down in four hours. As he spoke, chaos erupted. Panicked mobs besieged the shops. Then, as buses and trains were cancelled, millions of migrant workers took to the roads on foot, streaming towards home in scenes that recall the partition photographs of Margaret Bourke-White." After weeks of dithering, India had just been served with four hours of notice. In contrast, the government did nothing for all of February by way of testing, tracing and quarantining. A Kerala-type preliminary operation would have prepared the ground for a much mellower transition to lockdown[9].

COVID-19 disease outbreak was started in the December, 2019 in the Wuhan city of China which is also known as the largest transportation hub of China. During the spring festival of China the situation become epidemic. Soon, the virus is imported and spread to many countries. India, on 30 January 2020, reported its first positive case of the novel corona virus (COVID-19) from the state of Kerala with a student, who was studying in Wuhan University and had travelled to India (Perappadan,2020). And as a precautionary measure to contain the spread of the virus, Government of India declared closure of all educational institutions across the country from 16 March 2020, which was initially for fifteen days (Times of India, 2020). However as on 10 October 2020 with 6,979,423 positive cases and 107,450 reported death, ("India Corona virus," 2020) [9]India is one of the worst hit countries and the educational institutions are still closed. In response to the nationwide lockdown during March and April 2020, the school education sector was quick enough to shift its whole affair to online platform than the higher education sector in India (Wadia,2020). Perhaps the timing and duration of the initial decision to close educational institutions in India is one of the reasons behind this. As per the academic calendar in most of the higher education institutions class room teaching was almost over and examinations were about to start. However considering the rapidly evolving situation of the pandemic, the apex body of the higher education system of India, the University Grants Commission, decided to cancel all the examinations except the terminal semester/final years and directed to complete it by end of September 2020 (UGC, 2020)[12]. But the sudden extension of lockdown and shutdown for almost six months have forced dislocation of many students leaving them with lack of course materials to prepare for the examinations. This situation challenged the ways academic libraries used to function. The suspension of in-person services and loss of access to physical collections at the institutions' libraries has left the students, faculty and library professionals with consideration of adopting the technology which is the only way out to resilience the challenging time. In fact library professionals have demonstrated their skills, empathy and flexibility during lockdown to respond to the rapidly evolving situation. And in such circumstances the website is an essential and dynamic platform to connect and serve the targeted users. But technology cannot do this alone. In this unique and urgent situation the role of library professionals

especially of medical research institution is very crucial to make their users aware about the facilities and services provided till now.

## **Review of literature**

Bishop & Veil (2013) explained Public Libraries as Post-Crisis Information Hubs reports that public libraries played a great role by providing internet access to community members to request aid, to help find missing family and friends, to file insurance claims, and, in general, to begin rebuilding their lives. This article reports the quality of services and activities public libraries performed in response and recovery in twelve different communities impacted by tornadoes.

Liu, Tu-Keefner, Zamir, & Hastings (2017) have analyzed the role libraries could play in disaster preparedness and recovery via social media by disseminating credible information. The recommendations given by the authors could help libraries to proactively create risk communication strategies using social media for effective information services.

Tu-Keefner, Liu, Hartnett, & Hastings (2017) have discussed a situation-specific case study to identify health information services and technology access during and after the catastrophic flooding in South Carolina. The study investigated the role played by public libraries as partners of public health agencies during and after a disaster. The study recommended that public libraries should be proactively prepared to provide reliable disaster and health digital resources for young users.

R. Chakrawarthy and S. Wasan (2015) have discussed library websites of Higher Education institutions of India using Google search engine. They also used Spearman's co-efficient to establish the relationship between WIF and R-WIF. Link analysis of websites of Central Universities in India

Kumar and others (2009) have analyzed and compared the contents and usability of six Indian Institutes of Management (IIMs') library websites. A checklist was designed to evaluate the content of the web sites on the basis of this theoretical analysis of possible roles of IIM library web sites on the basis of previous evaluations After studying, they found that only 85 percent of the IIMs' library websites give information on e-databases and CD-ROM databases and 67 percent of the library websites provide information on e-books. It was also observed that only 16 percent of the library websites have information on DVD's collection, institutional repository and new archives and only 50 percent have got the information related to INDEST.

## **Indian Medical Research Institutions: Overview**

The Indian Council of Medical Research (ICMR), the apex body in India for the formulation, coordination and promotion of biomedical research, is one of the oldest and largest medical research bodies in the world. The ICMR is funded by the Government of India through the

Department of Health Research, Ministry of Health and Family Welfare. In 2007 the organization established the Clinical Trials Registry - India, which is India's national registry for clinical trials. The council's research priorities coincide with National health priorities such as control and management of communicable diseases, fertility control, maternal and child health, control of nutritional disorders, developing alternative strategies for health care delivery, containment within safety limits of environmental and occupational health problems; research on major non-communicable diseases like cancer, cardiovascular diseases, blindness, diabetes and other metabolic and haematological disorders; mental health research and drug research (including traditional remedies). These efforts are undertaken with a view to reduce the total burden of disease and to promote health and well-being of the population. In 1911, the Government of India set up the Indian Research Fund Association (IRFA) with the specific objective of sponsoring and coordinating medical research in the country. After independence, several important changes were made in the organisation and the activities of the IRFA. It was redesignated the Indian Council of Medical Research (ICMR) in 1949, considerably expanded scope of functions. The governing body of the council is presided over by the Union Health Minister. It is assisted in scientific and technical matters by a scientific advisory board comprising eminent experts in different biomedical disciplines. The board, in its turn, is assisted by a series of scientific advisory groups, scientific advisory committees, expert groups, task forces, steering committees etc. which evaluate and monitor different research activities of the council. The council promotes biomedical research in the country through intramural as well as extramural research. Over the decades, the base of extramural research and also its strategies have been expanded by the council. Intramural research is carried out currently through the council's 32 (Table -1) permanent research institutes/centres which are mission-oriented national institutes located in different parts of India. The institutes pursue specific areas of research such as COVID-19, tuberculosis, leprosy, cholera and diarrhoeal diseases, viral diseases including Rotavirus, dengue, COVID-19, Ebolavirus, Influenza, Japanese encephalitis, AIDS, malaria, kala-azar, vector control, nutrition, food & drug toxicology, reproduction, immunohaematology, oncology, and medical statistics. Six Regional Medical Research Centres address regional health problems, and also aim to strengthen or generate research capabilities in different geographic areas of the country. It has also been involved in research related to rare diseases like Handigodu syndrome. ICMR's Viral Research and Diagnostic Laboratories (VRDL) for diagnosis of the viral and other infectious diseases is gradually evolving and is proposed to be the largest network of laboratories for timely identification of viruses and other agents causing morbidity significant at public health level and specific agents causing epidemics and/or potential agents for bioterrorism and undertake research for identification of emerging and newer genetically active/ modified agents. In addition to research activities, ICMR also provides international fellowship programme for research and training and exposure of Indian biomedical scientists in various countries as well as offering opportunities to scientists from developing countries to come and work in Indian institutes/laboratories. It is also the secretariat for Health Ministry's Screening Committee (HMSC) meeting organised monthly for consideration of international collaborative research projects. It also encourages human resource development in biomedical research through Research Fellowships, Short-Term Visiting Fellowships, Short-Term Research Studentships, and various training programmes and workshops conducted by ICMR institutes and headquarters[13].

National Institute of Nutrition, Hyderabad (NIN) was founded by Sri Robert McCarrison in the year 1918 as 'Beri-Beri' Enquiry Unit. The National Animal Resource Facility for Biomedical

Research (ICMR-NARFBR) is an Indian Biomedical Research Institute under the aegis of Indian Council of Medical Research (ICMR) Department of Health Research Ministry of Health & Family Welfare, Government of India, It was established in 1957. National Institute for Research in Tuberculosis (NIRT) was set up in Madras in 1956 as a 5-year project, under the joint auspices of the Indian Council of Medical Research (ICMR), the Government of Tamil Nadu, the World Health Organization (WHO) and the British Medical Research Council (BMRC). National Institute of Epidemiology (NIE) is a permanent premier institute of Indian Council of Medical Research (ICMR) established on July 2, 1999 by merging the Central JALMA Institute for Leprosy (CJIL Field Unit), Avadi with the Institute for Research in Medical Statistics (IRMS), Chennai. National Institute of Cancer prevention and research (NICPR) was initially established as Cytology Research Centre (CRC) by the Indian Council of Medical Research (ICMR) in 1979, and was elevated to the level of an Institute in 1989. It was granted national status in 2016 acknowledging its mandate and contributions towards cancer prevention. The institute has broadened its horizon to cater to prevention of prevalent cancers in the country. Now, NICPR has been instrumental in the formulation of “Operational framework document” for cancer screening and management, recently released by MOHFW, which has been designed to carry out population based screening in 100 districts of India using cost-effective screening tools. National Institute of Malaria Research (NIMR) was established in 1977 in Delhi as ‘Malaria Research Centre’, which was renamed as ‘National Institute of Malaria Research’ in November 2005. ICMR-NIMR is one of the institutes of the Indian Council of Medical Research (an autonomous body under Department of Health Research, Ministry of Health & Family Welfare, Govt. of India). Rajendra Memorial Research Institute of Medical Sciences (RMRIMS), Patna was established in the memory of the First President of Republic of India Deshratna Dr. Rajendra Prasad in the year 1963 with Asthma as its mandate. It was taken over by Indian Council of Medical Research, New Delhi on 1st April, 1984 under Ministry of Health and Family Welfare, Govt. of India and thereafter the main thrust area is Visceral Leishmaniasis (Kala-azar). National Institute for Research in Reproductive Health (NIRRH) was established in 1954 in Mumbai. at the ICRC (Later named as Cancer Research Unit). In 1956, the unit was reorganized as the Contraceptive Testing Unit (CTU). Within 5 years of its inception, the Institute broadened the spectrum of its activities and was therefore renamed as Reproductive Physiology Unit (RPU). The National Institute of Virology is one of the major Institutes of the Indian Council of Medical Research (ICMR). It was established at Pune, Maharashtra State in 1952 as Virus Research Centre (VRC) under the auspices of the ICMR and the Rockefeller Foundation (RF), USA. National Institute of Traditional Medicine (NITM) was established in Belgaum, this centre is to carry out scientific evaluation of herbal medicines, both from codified as well as non-codified systems. The centre will also conduct studies on diseases of regional importance and the utility of traditional medicines in treatment of these diseases. In the current situation of COVID 19 pandemic, all the scientists in the institute are currently engaged in development of traditional medicine formulations to combat this viral infection. Microbial Containment Complex (MCC) was established in Pune, it focuses on bringing all stakeholders and Indian STI activities on a

single online platform; helping efficient utilization of resources; highlighting functioning of scientific organisations, laboratories and institutions; aggregating information on science funding, fellowship & award opportunities spanning from school to faculty level; pooling together conferences, seminars and events; and projecting science in India with its major achievements. HIV infection was detected in India for the first time in 1986. In the early nineties it became evident that HIV was spreading widely in the country and the national efforts for its containment required multi-disciplinary research involving virology, immunology, microbiology, clinical research, epidemiology, field based trials and socio behavioural investigations. An institute devoted exclusively to HIV/AIDS research was thus formed National AIDS Research Institute (NARI) in 1992 at Bhosari, Pune. The Indian Council of Medical Research-National Institute of Occupational Health (ICMR-NIOH) has been working for many years towards improving the management of occupational health risks in India. ICMR-NIOH is an occupational health research institute funded by the Government of India that is responsible for helping the national policy makers to develop the most suitable and effective policies for eliminating and reducing cases of serious work-related ill health and disease. National Institute of Pathology (NIP) was established in 1965 under the auspices of the Indian Council of Medical Research (ICMR) in New Delhi. It distribute of teaching material in pathology. National Institute of Medical Statistics (NIMS) was established in 2005 in Delhi, this Institute provides statistical back up for designing and analysis of disease surveillance, clinical trials of drugs and vaccines and RCH. Vector Control Research Centre (VCRC) established at Pondicherry (now Puducherry) in 1975, is one of the permanent institutes of the Indian Council of Medical Research, Department of Health Research, Government of India. VCRC has been engaged in basic and applied research with the primary objective of finding newer methods and developing strategies of vector control for the control of vector borne diseases. In 1962, about 59 years ago, "Cholera Research Centre" was established in Calcutta (Kolkata) by Indian Council of Medical Research (ICMR) to conduct research on prevention and control of cholera and other diarrheal diseases. ICMR converted the Centre into a full-fledged research organization with the status of a "National Institute" and renamed it as "National Institute of Cholera and Enteric Diseases" (NICED) in 1979. The National Institute of Research in Tribal Health (NIRTH), Jabalpur is one of the 32 health research institutes working under the aegis of the Indian Council of Medical Research (ICMR), Department of Health Research, Ministry of Health and Family Welfare, Government of India. The National Centre for Disease Informatics and Research (NCDIR), Bengaluru is one of its kind of unique institution which utilizes information science for health research as its integral component. It was established in 1982. Bhopal Memorial Hospital and Research Centre (BMHRC) established at Bhopal, it is multi-specialty tertiary care centre situated at Bhopal, Madhya Pradesh, which is the centre / heart of India. National Institute for Research in Environmental Health (NIREH) setup in 1984 at Bhopal, is one of the permanent institutes of the Indian Council of Medical Research (ICMR), a Government of India's apex autonomous organization for bio-medical research in the country. The National JALMA Institute for Leprosy & Other Mycobacterial Diseases

(NJILOMD), Agra came into existence on 1st April, 1976 and was named as "National Institute of Leprosy and other Mycobacterial Diseases" in 2005 to reflect its broader research areas. Centre for Research in Medical Entomology (CRME), Madurai was established during 1985 and throughout its successful career undertaken extensive work on various aspects of vectors and vector borne diseases in the country. National Institute of Immunohaematology (NIIH) was established in 1911, it is one of the premier research Institutes of the ICMR, located currently in the premises of the KEM hospital, Parel, Mumbai. The National Institute of Virology is one of the major Institutes of the Indian Council of Medical Research (ICMR). It was established at Pune, Maharashtra State in 1952 as Virus Research Centre (VRC) under the auspices of the ICMR and the Rockefeller Foundation (RF), USA. The RF withdrew its support in 1967 and since then the Institute is entirely funded by the ICMR. Genetic Research Centre (GRC) was established in 1976 at Mumbai for Research in Reproduction. National Institute for Implementation Research on Non-Communicable Diseases (NIIRNCD) came into existence on 07<sup>th</sup> December 2019. The institute is located in Jodhpur and it replaces the erstwhile Desert Medicine Research Centre. Regional Medical Research Centre (RMRC) was established in 1983 at Port Blair for biomedical research on communicable and non-communicable diseases prevalent in Andaman and Nicobar Islands with special emphasis on the health problems. The Regional Medical Research Centre (RMRC), Bhubaneswar is a permanent research centre of Indian Council of Medical Research. It was established in 1981. Regional Medical Research Centre (RMRC), Dibrugarh was established in 1982 for Biomedical Research. ICMR Virus Unit, Kolkata. The aim of establishing this centre was to conduct research related to cholera and other enteric diseases in 1979. Institute of Reproductive Medicine (IRM) was established at Sector I, DD Block, Salt Lake, Kolkata in 1989[13].

**Table -1**  
**List of Indian Medical Research Institutions**

S.N	Name of Institutes	Abbreviations	States	Web Address	Library Service
1	National Institute of Nutrition	NIN	Hyderabad	<a href="https://www.nin.res.in/">https://www.nin.res.in/</a>	Yes
2	National Animal Resource Facility for Biomedical Research	NARF-BR	Hyderabad	<a href="http://www.narfbr.org/">http://www.narfbr.org/</a>	Not Found
3	National Institute for Research in Tuberculosis	NIRT	Chennai	<a href="http://www.nirt.res.in/">http://www.nirt.res.in/</a>	Yes
4	National Institute of Epidemiology	NIE	Chennai	<a href="https://www.nie.gov.in/">https://www.nie.gov.in/</a>	Yes
5	National Institute of Cancer Prevention and Research	NICPR	Noida	<a href="https://nicpr.icmr.org.in/">https://nicpr.icmr.org.in/</a>	Yes
6	National Institute of Malaria Research	NIMR	Delhi	<a href="https://nimr.org.in/">https://nimr.org.in/</a>	Yes



7	Rajendra Memorial Research Institute of Medical Sciences	RMRIMS	Patna	<a href="https://www.rmrim.org.in/">https://www.rmrim.org.in/</a>	Yes
8	National Institute for Research in Reproductive Health	NIRRH	Mumbai	<a href="https://nirrh.res.in/">https://nirrh.res.in/</a>	Yes
9	National Institute of Virology	NIV	Pune	<a href="https://www.niv.co.in/">https://www.niv.co.in/</a>	Yes
10	National Institute of Traditional Medicine	NITM	Belgaum	<a href="https://www.icmrnitm.res.in/">https://www.icmrnitm.res.in/</a>	Yes
11	Microbial Containment Complex	MCC	Pune	<a href="https://www.indiascienceandtechnology.gov.in/">https://www.indiascienceandtechnology.gov.in/</a>	Yes
12	National AIDS Research Institute	NARI	Pune	<a href="https://www.nari-icmr.res.in/">https://www.nari-icmr.res.in/</a>	Yes
13	National Institute of Occupational Health	NIOH	Ahmedabad	<a href="http://www.nioh.org/">http://www.nioh.org/</a>	Not Found
14	National Institute of Pathology	NIP	Delhi	<a href="http://instpath.gov.in/">http://instpath.gov.in/</a>	Not Found
15	National Institute of Medical Statistics	NIMS	Delhi	<a href="http://icmr-nims.nic.in/">http://icmr-nims.nic.in/</a>	Not Found
16	Vector Control Research Centre	VCRC	Puducherry	<a href="https://vcrc.icmr.org.in/">https://vcrc.icmr.org.in/</a>	Yes
17	National Institute of Cholera and Enteric Diseases	NICED	Kolkata	<a href="http://www.niced.org.in/">http://www.niced.org.in/</a>	Yes
18	National Institute for Research in Tribal Health	NIRTH	Jabalpur	<a href="https://www.nirth.res.in/">https://www.nirth.res.in/</a>	Not Found
19	National Center for Disease Informatics and Research	NCDIR	Bengaluru	<a href="https://www.ncdirindia.org/">https://www.ncdirindia.org/</a>	Not Found
20	Bhopal Memorial Hospital and Research Centre	BMHRC	Bhopal	<a href="http://bmhrc.ac.in/">http://bmhrc.ac.in/</a>	Not Found
21	National Institute for Research in Environmental Health	NIREH	Bhopal	<a href="https://nireh.icmr.org.in/">https://nireh.icmr.org.in/</a>	Yes
22	National JALMA institute for Leprosy & Other Mycobacterial Diseases	NILOMD	Agra	<a href="https://www.jalma-icmr.org.in/">https://www.jalma-icmr.org.in/</a>	Not Found
23	Centre for Research in Medical Entomology	CRME	Madurai	<a href="https://www.omicsonline.org/">https://www.omicsonline.org/</a>	Yes
24	National Institute of Immunohaematology	NIIH	Mumbai	<a href="https://www.indiascienceandtechnology.gov.in/">https://www.indiascienceandtechnology.gov.in/</a>	Yes
25	Enterovirus Research Centre	ERC	Mumbai	<a href="https://www.niv.co.in/">https://www.niv.co.in/</a>	Yes
26	Genetic Research Centre	GRC	Mumbai	<a href="https://www.nirrh.res.in">https://www.nirrh.res.in</a>	Yes
27	National Institute for Implementation Research on Non-Communicable Diseases	NIIRNCD	Jodhpur	<a href="https://niirncd.icmr.org.in/">https://niirncd.icmr.org.in/</a>	Yes

28	Regional Medical Research Center	RMRC	Port Blair	<a href="http://www.rmrc.res.in/">http://www.rmrc.res.in/</a>	Not Found
29	Regional Medical Research Center	RMRC	Bhubaneswar	<a href="http://www.rmrcbbsr.gov.in/covid_intro.php">http://www.rmrcbbsr.gov.in/covid_intro.php</a>	Yes
30	Regional Medical Research Centre	RMRC	Dibrugarh	<a href="https://rmrcne.org.in/">https://rmrcne.org.in/</a>	Not Found
31	ICMR Virus Unit	ICMRVU	Kolkata	<a href="http://www.niced.org.in/divisions/VirusLaboratory">http://www.niced.org.in/divisions/VirusLaboratory</a>	Yes
32	Institute of Reproductive Medicine	IRM	Kolkata	<a href="https://irm-bnc.org/">https://irm-bnc.org/</a>	Not Found

## Medical Research Institution taken from Indian Council of Medical Research (Wikipedia)

### Objectives

The general objective of the study is to find out the facilities and services provided by the Indian Medical Research Institution's libraries during COVID-19 pandemic situation.

To find out the COVID test position of IMRI.

To discuss initiative taken in response for corona virus.

To discuss the service provided of IMRI.

To find out adhoc services of the COVID-19 situation.

To find out the research situation about COVID-19 through library content analysis of IMRI.

### Scope of the Study

This study covers the library websites of the Medical Research institute of India. All the 32 Medical Research institute's library websites/web-pages had been selected for the study (Table1). But, only 21 Medical Research institute's library active for service and 11 Medical Research institute's library not active. So, analysis 21 Medical Research institute's libraries and this study reports the findings of the remaining 11 Medical Research institute's libraries.

### Methodology

The area of study of content analysis of websites is not new but this study of analysis is new because this situation (COVID-19) is new. With the advent of Information and Communication Technologies (ICT), websites are functioning as gateways for libraries to reach its prospective users as, this is the ways in which the present information users interact and engage with. Eventually with popularity web contents, a proliferation of literature on evaluation of web content through pre designed checklist based on recommendations of previous studies. The COVID-19 pandemic is unique with regard to the scale, the impact and duration of the situation. It is unprecedented and the library professionals have had to work from home for more than a

month during the nationwide lockdown. As the pandemic is still ongoing as on 20 October 2021 much literature is not published, the present study is not based on a pre designed checklist, instead it investigates the websites under study and records the users services provided through the websites. The areas are: Type of services provided through virtual mode, initiatives taken in response to COVID-19 and adhoc services introduced in view of the situation. The search of the websites was conducted during 15 September 2021 to 15 October 2021. This survey studied all the 32 Medical Research institution's libraries listed in the webpage of The Indian Council of Medical Research (ICMR) by the Government of India through the Department of Health Research, Ministry of Health and Family Welfare. This study uses the method of investigation of the websites to find out the information of the libraries of the Medical Research Institution of India to COVID -19 pandemic situations.

## **Findings :**

### **Type of Services Provided**

In the all education sector, online learning has emerged as an elixir to address the restrictions imposed in the wake of corona virus pandemic situation and considered as a feasible option to overcome the challenges. Consequently libraries have been exploring the collection of potential e-resources and providing remote access to those which may be of interest to the fraternity in support of academic and research activities. While many libraries have significant digital services, some even have introduced multi-mode access to resources in order to deal with the demand. Some of the significant services and facilities provided by the libraries under study are discussed here.

### **Initiatives Taken in Response to COVID-19**

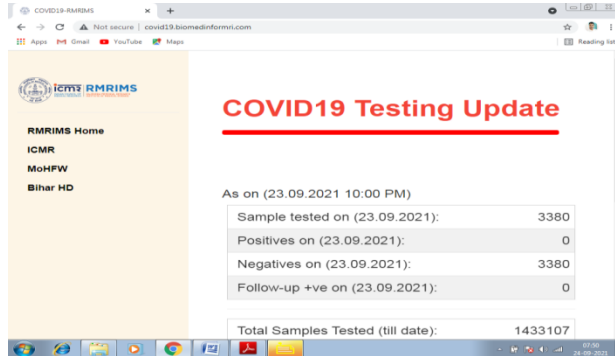
#### **COVID Test Service:**

To enhance the visibility of the resources and to ease the information searching COVID test report twenty libraries (95%), eight libraries test number published (38%) and one library not found COVID test report (Table-2) have provided a one stop solution by putting all the useful resources under one heading namely library services during COVID-19.

## Figure – 1 and 2 Extensive Outreach Activities of Various MRI's Libraries

(RMRIMS), Patna

(NIIRNCD), Jodhpur

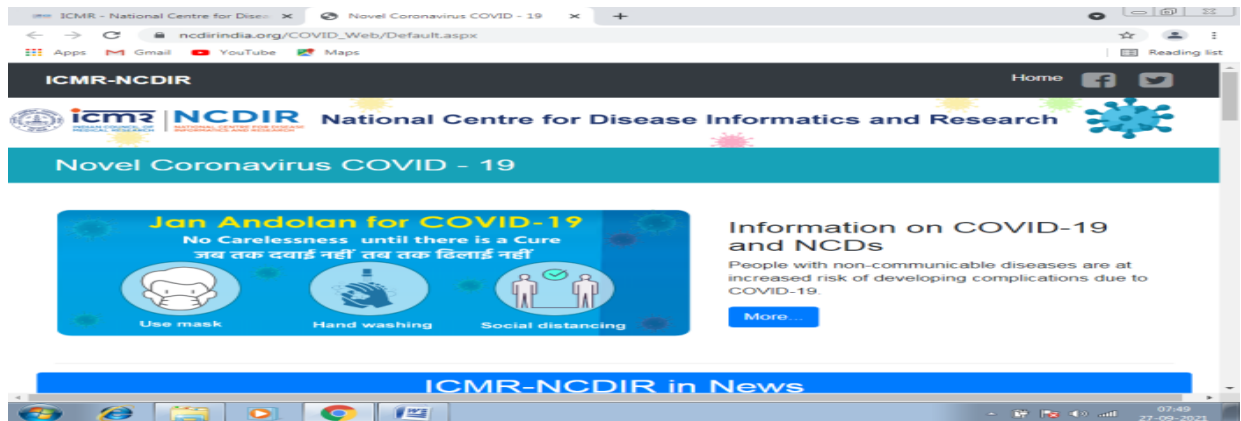


### Link of Special Services During COVID – 19:

To enhance the visibility of the resources and to ease the information searching work twenty one libraries (100%) (Table-2) have provided a one stop solution by putting all the useful resources under one heading namely library services during COVID-19 (figure – 3,4 and 5)

## Figure – 3, 4 and 5 Special Service Information of MRI

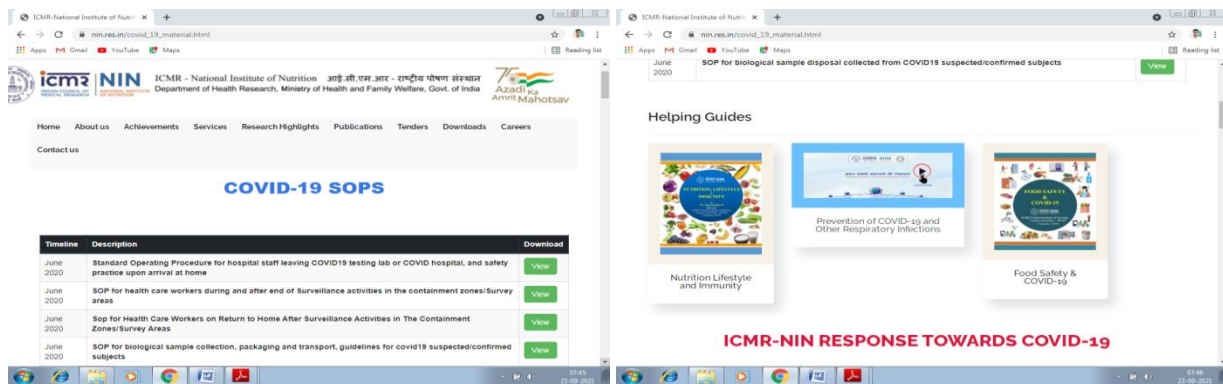




### SOPs to Contain Spread of COVID-19 in Libraries:

Library being a central facility of educational institutions, visit to library building is quite high than any other section of the institute. Further, the workspace of libraries are relatively close setting with shared spaces like stack room, reading room, multimedia lab, circulation counter etc. And hence the vulnerability for the spread of corona virus is comparatively fast among library staff and visitors. It is imperative to make the library virus free by taking some preventative measures. As a remarkable initiative 21 (100%) libraries (Table-2) have issued Standard Operating Procedures (SOPs) to be followed by users wishing to visit the physical facility of the library to ensure the safety of the staff as well as the visitors. It was found that SOPs guidelines were placed on the website in a very highlighted manner to catch the attention of its patrons and also to ensure that visitors have a know how about these SOPs in advance thus facilitating use of preventive measures while providing library services.

**Figure – 6, 7 and 8  
Standard Operating Procedures service of IMRI**



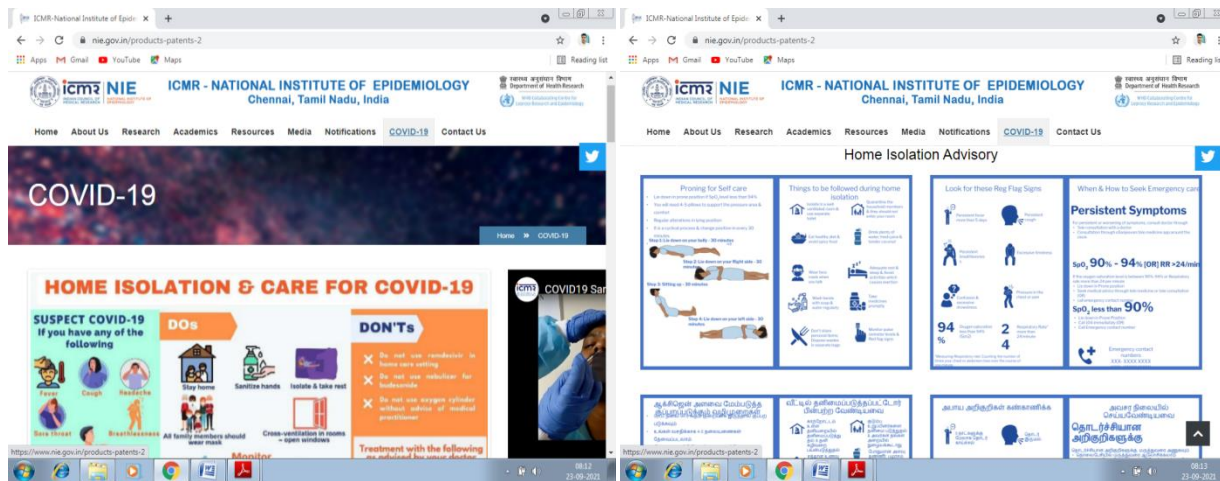


## News / Order and Guidelines:

Corona virus is rapidly evolving in nature. In view of the prevailing situation on COVID-19 competent authorities like World Health Organisation, Government of India, various State Governments have issued directives/instructions time to time on preventive measures to be followed to contain the spread. Many libraries have prepared an information page which displays health advice, updates on the Government's and World Health Organisation's guidelines, and ideas on how to deal with fake news at the time of the pandemic situation. 21IMRI libraries (100%) (Table-2) have either provided link of World Health Organisation, Government of India, State Government sites or have posted the guidelines issued from competent bodies some of them have gone one step further. National Institute of Virology (NIV), Pune, provided information on extended areas like myths and facts of COVID-19, COVID-19 healthy parenting etc on the library page. All IMRI libraries have displayed Corona virus advisory- psychological wellbeing, medical advisory, circular along with post COVID-19 preventive measures. Thus libraries have come up with special 'Information Literacy drives' about COVID and related issues by connecting library patrons with the inside out about all aspects of COVID-19 health emergency.

Figure – 9 and 10

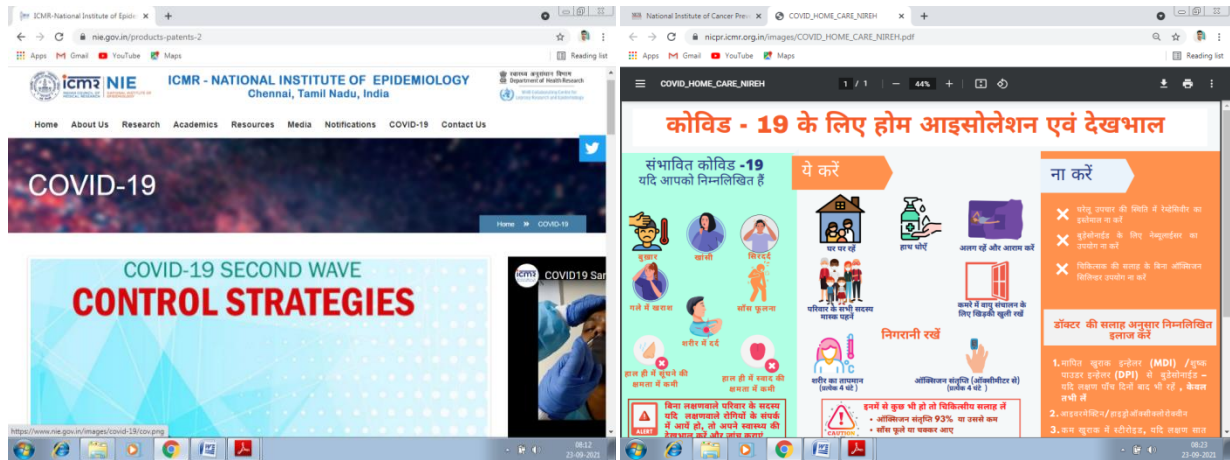
Guidelines to all aspects of COVID-19 health emergency



Safety measures for library Staff and others:

It is an actual challenge before any organisation to keep the staff safe and comfortable in providing services. As libraries re-opened in May after nationwide lockdown, many are doing so only for limited hours every day, and are allowing staff to work with minimum number in accordance with the government guidelines. Two IMRI (National Institute of Cancer Prevention and Research and Microbial Containment Complex) (Table-2) have rescheduled their working hours during this period.19IMRI open for as well as. So, increase the risk of spread of the virus to staff and others. But to take safety and security for everyone concerned. All IMRI libraries use of computers for searching of Online Public Access Catalogue and urged to use personal devices to check the online catalogue either by visiting the library website or by using the Single Window Search or Library App or Remote/Off-Campus Services.

**Figure – 11 and 12**  
**Message for Safety**



**Table – 2**  
**Initiatives Taken in Response to COVID-19**

Name of Institutes	Types of services provided						
	COVID Test	Link of special services during COVID - 19	Share of notification of WHO/Government of India	Display of SOPs	Display of research support tools	Restricted working hours	Restriction on certain services
National Institute of Nutrition	Yes	√	√	√	√		
National Institute for Research in Tuberculosis	Yes	√	√	√	√		
National Institute of Epidemiology	Yes	√	√	√	√		
National Institute of Cancer Prevention and Research	Yes	√	√	√	√	√	√
National Institute of Malaria Research	Yes	√	√	√	√		
Rajendra Memorial Research Institute of Medical Sciences	Yes (1493540)	√	√	√	√		

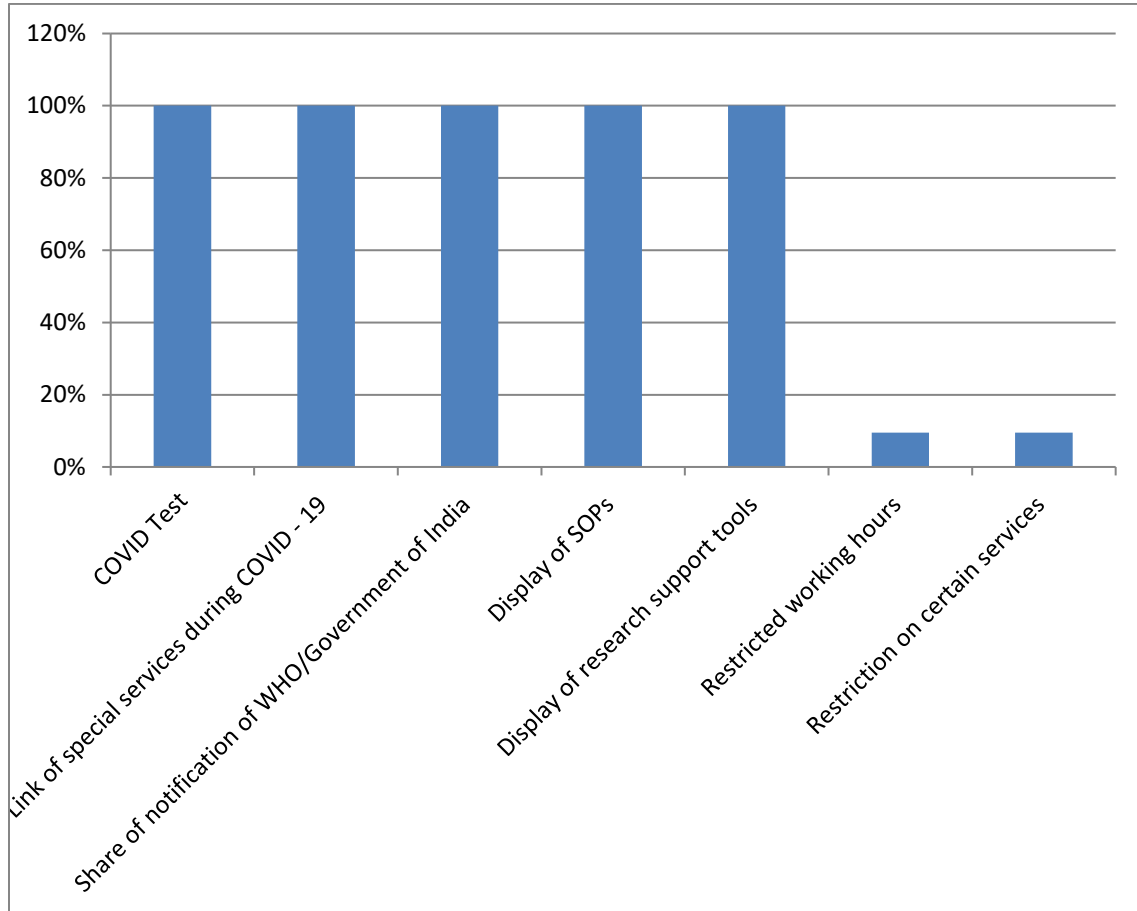


National Institute for Research in Reproductive Health	Yes	√	√	√	√		
National Institute of Virology	Yes (369348)	√	√	√	√		
National Institute of Traditional Medicine	Yes (210000+)	√	√	√	√		
Microbial Containment Complex	Yes	√	√	√	√	√	√
National AIDS Research Institute	Yes	√	√	√	√		
Vector Control Research Centre	Not Found	√	√	√	√		
National Institute of Cholera and Enteric Diseases	Yes (333742)	√	√	√	√		
National Institute for Research in Environmental Health	Yes	√	√	√	√		
Centre for Research in Medical Entomology	Yes	√	√	√	√		
National Institute of Immunohaematology	Yes	√	√	√	√		
Enterovirus Research Centre	Yes (369384)	√	√	√	√		
Genetic Research Centre	Yes	√	√	√	√		
National Institute for Implementation Research on Non-Communicable Diseases	Yes (278174)	√	√	√	√		
Regional Medical Research Center	Yes (644692)	√	√	√	√		
ICMR Virus Unit	Yes (333742)	√	√	√	√		

√ marks indicate to information found  
No marks indicate to information not found

**Figure – 13**

**Percentage of Initiatives Taken in Response to COVID-19**



COVID Test, link of special services during COVID-19, share of notification of WHO/Government of India, display of SOPs service and display of research support tools services under Initiatives Taken in Response to COVID-19 services, serve 100% of all Indian Medical Research Institutions. Only restricted working hour and restriction on certain services, serve 9.5% two institutions, National Institute of Cancer Prevention and Research and Microbial Containment Complex.

**Type of facilities and services provided to the users:**

In the IMRI library studied and get information from 21 libraries for this paper. Sixteen libraries (76%) have provided direct link on the home page to increase the visibility (Table-3) rest have linked

it under various broad heading like central facility, academics facility, Quick links, resources services etc. are available for users.

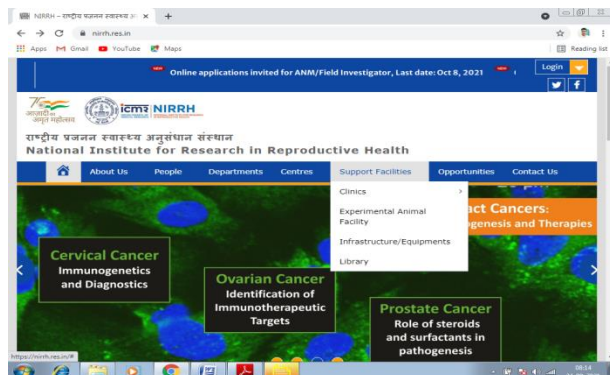
## Remote Access to E-resources

The main aim of any academic library is to enhance and strengthen the teaching, learning and research process by installing seamless document/information delivery system and around the country all libraries of higher education system have been working hard to provide services and access to collections to the users who have been displaced due to COVID-19 pandemic situation. While all the libraries under study have provision of remote access to subscribed e resources, many have taken a lot of effort in leveraging and expanding existing online services. Notably all IMRI libraries have displayed step by step user guide on remote login to get access to the licensed/without licensed E-resources.

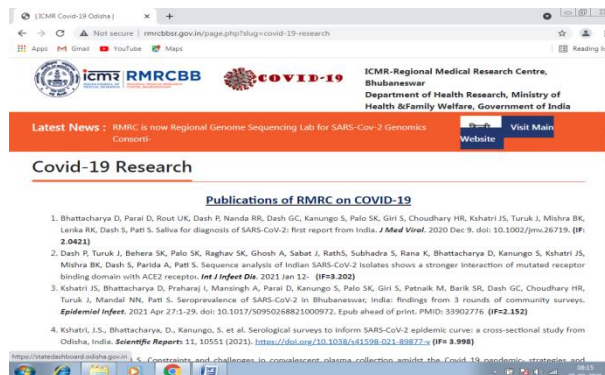
Figure-14 and 15

## E-resources of IMRI libraries

(NIRRH), Mumbai



Regional Medical Research Centre, Bhubaneswar



## Free and Expanded Access

In response to the uncertain and difficult time, some publishers are providing expanded access to e resources (access to additional materials than subscribed by the library) including e-books, e-journals, e-databases etc. for a limited period during this pandemic situation. The list of such publishers along with details are given by 20 libraries (95%) (Table -3) without Centre for Research in Medical Entomology, Madurai library. Libraries have highlighted the links of these free and expanded resources on their portal to facilitate visibility of these options available for

users. This has enhanced the possibility of users availing the virtual services and hence, visiting library portal frequently. Almost all the libraries have facilitated access point to provide digital version of the newspaper and magazines that can be read using any convenient handy digital devices.

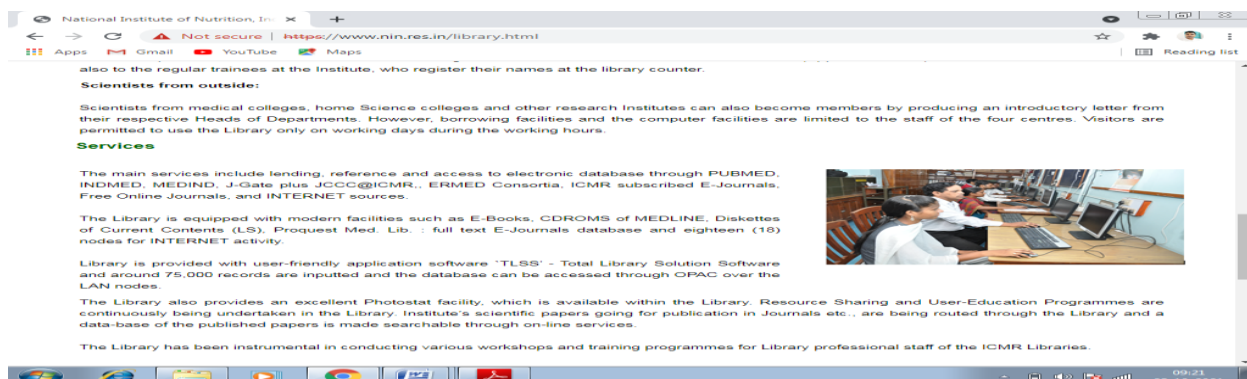
## Open Access Resources

The library has been playing a key role in reference activities by offering information services like MEDLINE Searches, Proquest Medical Library Full Text Database of journals and other online retrieval activities using the LAN Network of the Institute. Library participates in exchange of data, journals and information using the URL. Resource Sharing and User Education Programmes are continuously being undertaken by the Library. Institute's Scientific papers going in for publication in Scientific Journals etc., are usually routed through the Library and a data-base of the published papers is also made accessible through on-line services using NIN Website and others IMRI library website. The Library services are being further strengthened with continuous support from Indian Council of Medical Research for accessing E-journals from JCCC@ICMR and J-Gate database. The Library is also a member of ERMED Consortia of National Medical Library, New Delhi provided by ICMR for accessing E-journals Online Subscription of 4 Core Journals such as LANCET, NATURE, NEJM, SCIENCE has been renewed by ICMR is also accessible. Remarkably 20 libraries (95%) (Table-3) have brought together all such resources onto a single page and made these available for their users in anticipation to the information need.

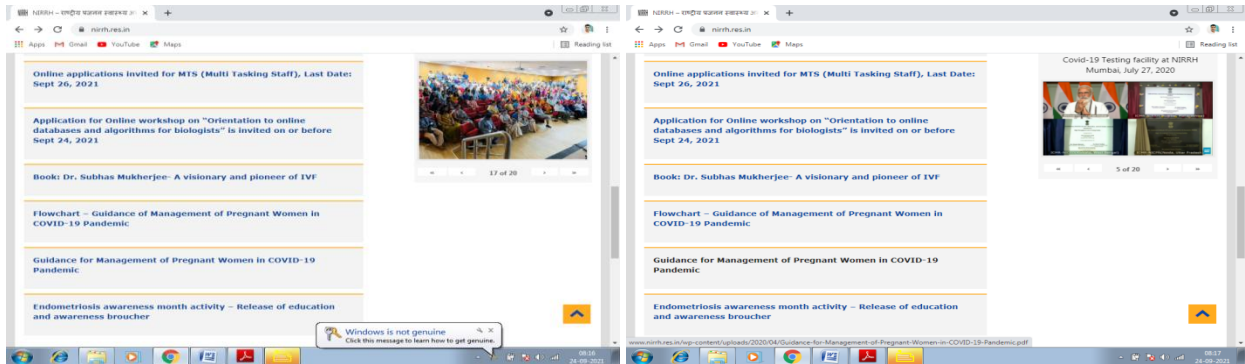
**Figure-16**

## Open Access Resources

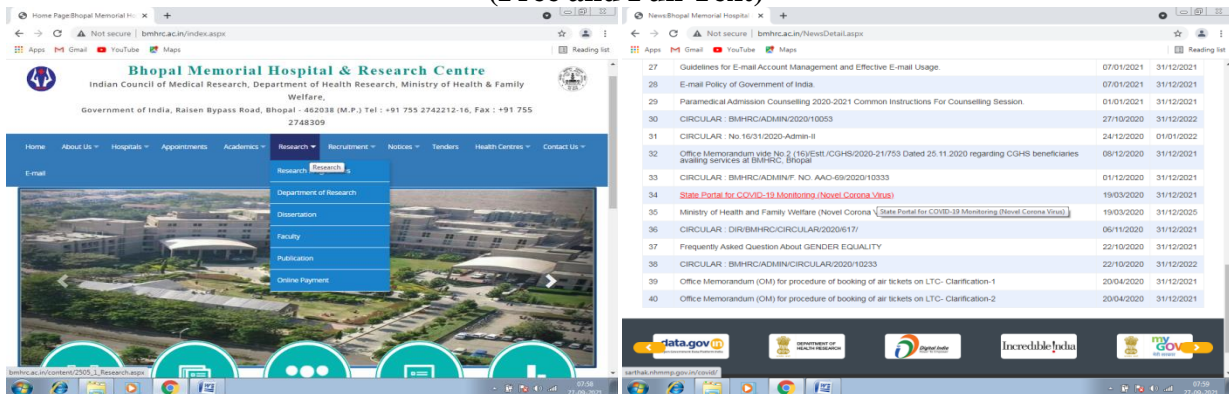
National Institute of Nutrition, Hyderabad



**Figure – 17, 18 and 19**  
**Online Scholarly Resources on COVID – 19**  
**(Free and Full Text)**



**Figure – 20 and 21**  
**Online Scholarly Resources on COVID – 19**  
**(Free and Full Text)**



## Resources Related to COVID-19

Access to licensed electronic resources is subject to the terms and conditions under which they are procured. As the scientific community across the globe is racing against time to develop a definitive treatment for the disease, access to as much as and as quickly as possible published literature to accelerate the ongoing research is the need of the hour. Usually, a lot of commercial publishers and vendors have taken a significant initiative and have provided open access to materials related to COVID-19. Others have facilitated access by making it easier to log-in and access materials from outside of official networks. 20 IMRI libraries (Table-3) initiative throws open its services to all, providing special COVID-19 related literature and information ranging from research writings, projects, funding, start-ups, datasets, multimedia contents under the a single section COVID-19 Research Repository. Almost all the IMRI libraries were permit to access of use of these useful resources by highlighting IMRI libraries website homepage.

**Figure – 22 and 23**  
**Special service on COVID- 19 related resources and scholarly opportunities**



## Assistance in Technological Initiatives

The very purpose of establishing these Medical Research institutes are to make the country self-supporting in her technological/medical needs. Across the years, all these institutes have come up to the expectations which are evident from the technological/medical initiatives taken by the institutes during the unexpected COVID – 19 pandemic situations. Few Medical Research Institution make to mask, sanitizer, low cost ventilators for use in COVID-19 pandemic situations with collaboration to technological institution. Libraries support the main objectives of the institutes, hence in the Indian Medical Research Institution libraries have also played a great role for the information needs of the researchers.

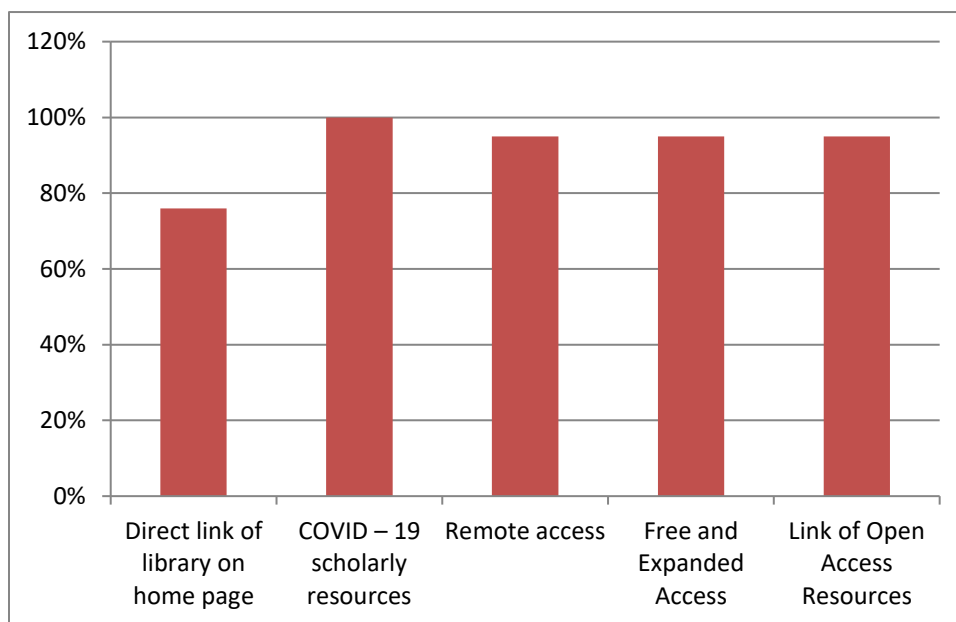
**Table – 3**  
**Services in anticipation of the information needs**

Name of Institutes	Types of services provided				
	Direct link of library on home page	COVID – 19 scholarly resources	Remote access	Free and Expanded Access	Link of Open Access Resources
National Institute of Nutrition	√	√	√	√	√
National Institute for Research in Tuberculosis	√	√	√	√	√
National Institute of Epidemiology		√	√	√	√
National Institute of Cancer Prevention and Research	√	√	√	√	√
National Institute of Malaria Research	√	√	√	√	√
Rajendra Memorial Research Institute of Medical Sciences	√	√	√	√	√
National Institute for Research in Reproductive Health	√	√	√	√	√
National Institute of Virology	√	√	√	√	√
National Institute of Traditional Medicine	√	√	√	√	√
Microbial Containment Complex		√	√	√	√
National AIDS Research Institute	√	√	√	√	√
Vector Control Research Centre		√	√	√	√
National Institute of Cholera and Enteric Diseases	√	√	√	√	√
National Institute for Research in Environmental Health	√	√	√	√	√

Centre for Research in Medical Entomology	√	√			
National Institute of Immunohaemotology		√	√	√	√
Enterovirus Research Centre	√	√	√	√	√
Genetic Research Centre	√	√	√	√	√
National Institute for Implementation Research on Non-Communicable Diseases		√	√	√	√
Regional Medical Research Center	√	√	√	√	√
ICMR Virus Unit	√	√	√	√	√

√ marks indicate to information found  
 No marks indicate to information not found

**Figure – 24**  
**Services in anticipation of the information needs**



Direct link of library on home page only 16 institutions 76% of all institutions. COVID-19 scholarly resources serve all institutions. Remote access, free and expanded access and link open access resources services, Serve 20 institutions 95% of all MRI of India under Services in anticipation of the information needs.



## **Adhoc services of library in the pandemic situation**

### **Assistance in Information searching and scholarly writing**

In order to easing the stress level of users to get the required information, libraries themselves are doing great work to inform their members and support them in this difficult time. Library of Indian Medical Research Institution web page welcomes the visitors with flashing message. All these tag lines provides a great motivational impetus in easing out the COVID related concerns in the mind of the library patrons in a big way. The virtual nature of services provided by the libraries going in lines with continuous technological/medical development got a boost in this time of COVID -19 health emergency. It was found that that efficiency of libraries in providing virtual reference services in a new and improved manner got enhanced during this COVID -19 obligations on providing physical services in person. Various attempts were made to facilitate Inter library loan services on a virtual basis from requisition to supply. Similarly Grammarly services, Email Alert services, Scanned document services were taken as the priority services and all efforts were taken by libraries to highlight these services on the websites with complete detailing of the requisite process for these services. Twenty libraries (95%) have extended research assistance in the areas of literature search. Moreover, twenty one libraries (100%) have provided access to various online research support tools subscribed by them.

### **Access to Print Materials/ Online research support tools**

All IMRI libraries have taken special effort to make the print collection available to its users. They have compiled a list of course reading materials and provided a link to it and have also introduced delivery of scanned pages of a chapter or two of a print document available in the library collection on request. Libraries have also introduced the service of online delivery of document/ research paper on request by using social media.

### **Organization/Institution of Virtual Events**

Many libraries have taken effort in arranging webinars relating to topics starting from information literacy to research ethics to educate their users on the use of digital information in their learning and research activities (Table-4). While many have hold a series of webinars to strengthen the research capabilities of the patrons on topics like ‘COVID-19 Situation’ ‘Guide to people’ etc., user awareness, getting aliened to the publishing process, empowering Indian research on COVID – 19. Role of libraries in proliferation of knowledge got more consolidated by activities and webinars conducted by libraries in this crisis time. It was found that various topics of deliberations in these webinars were very relevant in providing something to everyone in an easy and convenient manner.

**Table - 4**  
**Adhoc Services Introduced in View of the Situation**

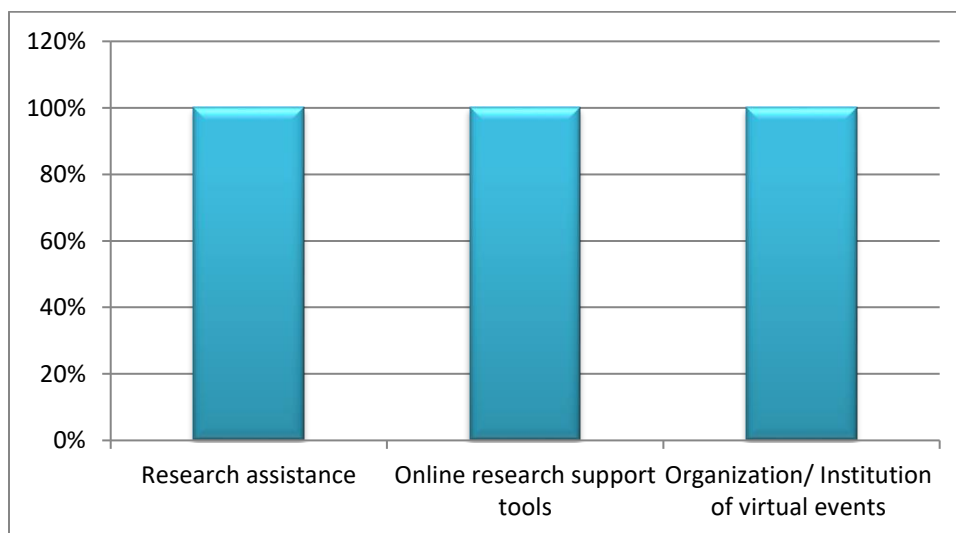
Name of Institutes	Types of services provided		
	Research assistance	Online research support tools	Organization/ Institution of virtual events
National Institute of Nutrition	√	√	√
National Institute for Research in Tuberculosis	√	√	√
National Institute of Epidemiology	√	√	√
National Institute of Cancer Prevention and Research	√	√	√
National Institute of Malaria Research	√	√	√
Rajendra Memorial Research Institute of Medical Sciences	√	√	√
National Institute for Research in Reproductive Health	√	√	√
National Institute of Virology	√	√	√
National Institute of Traditional Medicine	√	√	√
Microbial Containment Complex	√	√	√
National AIDS Research Institute	√	√	√
Vector Control Research Centre	√	√	√
National Institute of Cholera and Enteric Diseases	√	√	√
National Institute for Research in Environmental Health	√	√	√
Centre for Research in Medical Entomology	√	√	√
National Institute of Immunohaematology	√	√	√

Enterovirus Research Centre	√	√	√
Genetic Research Centre	√	√	√
National Institute for Implementation Research on Non-Communicable Diseases	√	√	√
Regional Medical Research Center	√	√	√
ICMR Virus Unit	√	√	√

√ marks indicate to information found  
 No marks indicate to information not found

**Figure – 25**

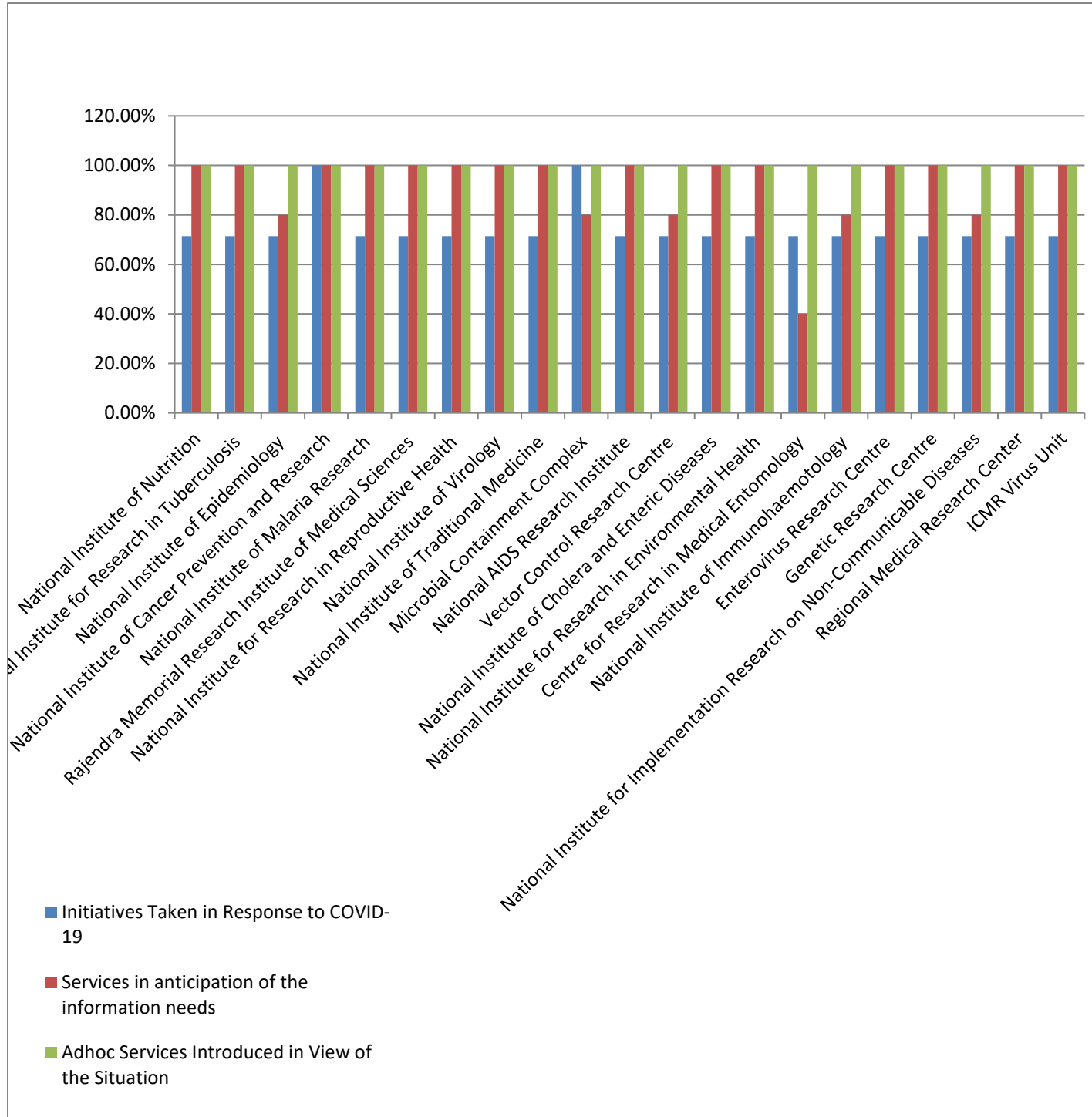
**Adhoc services of library in the pandemic situation**



Research assistance, online research support tools and organization/ institution of virtual events service under adhoc services of MRIs library in the pandemic situation all institutions 100% serve.

Figure – 26

Percentage of all services of all MRI of India



National Institute of Cancer Prevention and Research and Microbial Containment Complex provided 100% initiatives taken in response to COVID-19 service, others all institutions

provided 71.4% services. 5 institutions of all institutions (table-3) provided 80% services under services in anticipation of the information needs. Only Centre for Research in Medical Entomology provided 40% services. And other 15 institutions provided 100% services under services in anticipation of the information needs. All institutions provided 100% services (table-4) under adhoc services introduced in view of the situation.

### **Limitations of the Study**

The findings of the study are purely based on the contents available on the day of investigation of websites. Given the impermanent information of web contents, some services provided by the libraries at the time of pandemic situation might not be reported in the study.

Secondly, services carried out offline by the libraries under study but not uploaded on the websites could not be analyzed.

And, if any website of IMRI inactive or any error found or Stop any service this IMRI so, cannot found the information in webpage.

### **Conclusion**

Suddenly changes in delivery of library services and work system, time etc. for COVID-19 pandemic situation. Strictly social distancing and lockdown measures were imposed in the early phases of the pandemic. The Internet and web technologies have created a new and unparallel environment and enabling the libraries to enhance and strengthen the research, teaching and learning even in this difficult and uncertain time. The concept and practice of providing remote access of e-resources by libraries is not new, but the user friendly way adopted by many libraries and the number of resources made available by them during the pandemic is exemplary. Considerable planning by the library professionals will be required even after the open of educational campuses. It will be imperative to re-assess every existing service and re-design it in view of the government protocols to deal with the situation. Following strict social distancing measures visit to library could be restricted when institutes re-open. Users may demand for additional digital resources if the situation does not improve much for a longer period of time. The points discussed in this article are aimed in providing evidence which can be the basis for sound decision making while selecting any new features or refining the existing features in the services to be planned even after post COVID – 19 which will at least reduce the gap that students are likely to experience if restriction to visit the physical facilities of the libraries will continue even after re-opening of the institutions. While many academic libraries in India are still struggling to build a strong e-platform to render their services, adoption of tech-led holistic approach is the only way out which can help tide over the challenge and keep the libraries functioning without a halt. Libraries have acted smart even this time and evolved as a continuous learning factory. It can be said from this study that libraries are emerging as new genre of knowledge hubs capable of playing a vital role in supporting our nation to settle into a new normal situation.

## Reference

1. Bishop, B. W., & Veil, S. R. (2013). Public Libraries as Post-Crisis Information Hubs. *Public Library Quarterly*, 32(1), 33–45. <https://doi.org/10.1080/01616846.2013.760390>
2. Dadhe, Pooja P. and Dubey, Manju N. (2020). Library Services Provided During COVID-19 Pandemic: Content Analysis of Websites of Premier Technological Institutions of India. From <https://digitalcommons.unl.edu/libphilprac/4445>
3. Devi, K. K., & Verma, M. K. (2019). Content analysis based evaluation of library websites: A case study. *Annals of Library and Information Studies (ALIS)*, 65(4), 239-251–251. Retrieved from <http://op.niscair.res.in/index.php/ALIS/article/view/21657>
4. Liu, J., Tu-Keefner, F., Zamir, H., & Hastings, S. K. (2017). Social Media as a Tool Connecting with Library Users in Disasters: A Case Study of the 2015 Catastrophic Flooding in South Carolina. *Science & Technology Libraries*, 36(3), 274–287. <https://doi.org/10.1080/0194262X.2017.1358128>
5. Majhi, S.C. and Das, R. (2019). Website of High Courts in India: a Webometric Study, Retrieve from <https://digitalcommons.unl.edu/libphilprac/2803>
6. Majhi, S.C. and Das, R. (2020). Webometric Analysis of open Access Institutional Digital Repositories in southern Asia, Retrieve from <https://digitalcommons.unl.edu/libphilprac/3892>
7. Pareek, S., & Gupta, D. K. (2012). Information about Services and Information Resources on Websites of Selected Libraries in Rajasthan: A Study. *DESIDOC Journal of Library & Information Technology*, 32(6). <https://doi.org/10.14429/djlit.32.6.2847>
8. Perappadan, B. S. (2020, January 30). India's first coronavirus infection confirmed in Kerala. *The Hindu*. Retrieved from <https://www.thehindu.com/news/national/indias-first-coronavirus-infection-confirmed-in-kerala/article30691004.ece>
9. Times of India. (2020, March 16). *Govt. announces closure of all Schools, Colleges across India till March 31*. Retrieved September 18, 2020, from [timesofindia.indiatimes.com:https://timesofindia.indiatimes.com /home/education /news/govt-announces-closure-of-all-educational-establishments-across-india-till-march-31/articleshow/74659627.cms](https://timesofindia.indiatimes.com/home/education/news/govt-announces-closure-of-all-educational-establishments-across-india-till-march-31/articleshow/74659627.cms)
10. Tu-Keefner, F., Liu, J., Hartnett, E., & Hastings, S. K. (2017). Health Information Services and Technology Access during and after a Disaster: Lessons Learned by Public Librarians in South Carolina. *Journal of Consumer Health on the Internet*, 21(1), 26– 39. <https://doi.org/10.1080/15398285.2017.1279895>
11. Wadia, L. C. (n.d.). Graduating from emergency remote teaching to online higher education in India. Retrieved September 17, 2020, from ORF website: <https://www.orfonline.org/expert-speak/graduating-emergency-remote-teaching-online-higher-education-india-67279/>

12. University Grants Commission. (2020, 7 6). *www.ugc.ac.in/pdfnews/6100894*. Retrieved September 18, 2020, from *www.ugc.ac.in*: [https://www.google.com/search?client=firefox-b-d&q=https%3A%2F%2Fwww.ugc.ac.in%2Fpdfnews%2F6100894\\_UCG-Revised-Guidelines-on-Examinations-and-Academic-Calendar-for-the-Universities-in-view-of-COVID-19-Pandemic\\_06\\_07\\_2020.pdf](https://www.google.com/search?client=firefox-b-d&q=https%3A%2F%2Fwww.ugc.ac.in%2Fpdfnews%2F6100894_UCG-Revised-Guidelines-on-Examinations-and-Academic-Calendar-for-the-Universities-in-view-of-COVID-19-Pandemic_06_07_2020.pdf)

13. Wikipedia (n.d.). Retrieved April, 2019, from [https://www.en.wikipedia.org/wiki/open\\_access](https://www.en.wikipedia.org/wiki/open_access)

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