USES AND IMPACT OF RESEARCH4LIFE RESOURCES ON NHRC LIBRARY USERS

A Thesis

Submitted to The

Central Department of Library and Information Science

For the Fulfillment of the Requirements for the

Master's of Arts in Library and Information Science

Submitted by

KUMARI DIPIKA

Exam Symbol Number: 280912

Central Department of Library and Information Science

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Kirtipur, Kathmandu

September, 2021

SELF DECLARATION

I declare that this thesis has been prepared completely by me. It has not been submitted for any other degree or professional qualification. The data, analysis and experimental work are almost solely my own work. Due reference has been provided on all supporting literatures and resources wherever required. I am aware of and understand the university's policy on plagiarism.

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RECOMMENDATION LETTER

This is to certify that Ms. Kumari Dipika has prepared this thesis entitled **"Uses and Impact of Research4life Resources on NHRC Library Users"** under my supervision and guidance. I recommend this thesis to the evaluation committee for final approval and acceptance.

September, 2021

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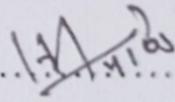Kirtipur
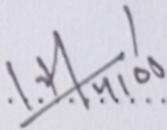Kathmandu
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This thesis entitled "**Uses and Impact of Research4life Resources on NHRC Library Users**" by Ms Kumari Dipika is prepared for the partial fulfilment of the requirements for the Master Degree of Library and Information Science is hereby accepted and approved.

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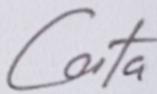
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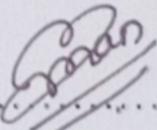
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DEDICATION

This thesis is dedicated to

my grandparents Urmila Devi and Yogendra Jha

and

all my family members

PREFACE

This thesis entitled "Uses and Impact of Research4life Resources on NHRC Library Users" carried out as partial fulfilment of the requirements for the Master's Degree in Library and Information Science (MLIS.). Present era is an online era. Education and research are depending on online resources. But the academicians, researchers are facing problem in gaining online access to scientific journals, books and very useful but costly citation and literature search database like Scopus, because of their high cost. Research4Life has been fulfilling such a knowledge gap by providing free online access to such resources through its five programmes. Research4Life is a major source of online scientific information resources in Nepal. But its proper use is equally important which needs well knowledge of content, structure and features of the databases. It also needs a good internet connection, computer devices. Keeping these things in mind this thesis has focused on the existing status of use and impact of Reserch4Life programmes on library users.

This thesis is divided into five chapters. The first chapter includes a brief description of the study with background information. The second chapter deals with a literature survey of related studies covering online access to academic and professional information resources, Reserch4Life resources, their uses and impact on the scholars. The research methodology, a set of methods employed during the study is presented in chapter three. Analysis of data is presented in chapter four. The fourth chapter includes facts and data of the study and a descriptive presentation of data with the help of tables. Finally, the fifth chapter includes the summary, important findings, conclusions and recommendations based on the study. The report also includes questionnaire and institutional profile in annexes.

I believe that the facts revealed by this thesis will help to draw the attention of concerned people towards the importance of the use of Research4life in the study and scientific research. It will also draw the attention of the authorities to reduce the barriers faced by the user in its access and use.

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ABSTRACT

Reserch4Life is a major source of online scientific journals, books and databases in Nepal and other low or middle-income countries since 2002. It provides free access to over one hundred thousand academic and professional literatures. This study aimed to explore the use status of Research4life Resources by the Nepal Health Research Council library users and to identify its impact on their study and research work. It is entitled "Uses and Impact of Research4life Resources on NHRC Library Users". This study was the beginning of a formal study on the accessibility of Research4Life resources for Nepalese researchers and to know its utilization, importance and challenges for NHRC library users and hence for Nepal. It has used the quantitative research method. Different types of literature from journals, books, thesis and websites were discovered, accessed and reviewed systematically. The data and information were collected using the questionnaire survey method. The population of the study was the library users at the NHRC library. A simple random sampling method used to select samples. Out of 50 questionnaires distributed to NHRC library users only 40 returned a completely filled questionnaire. The collected data have been tabulated, analyzed and presented in tables. It has used frequency distribution, listing the number of respondents and respective percentages. This study finds that all respondents knew and have used Research4Life resources. 75% of users depends on guidance from library staff to use it. 97.5% have used it for journals whereas only 50% have used it for books. Users mostly refer to Google Scholar (95%) and PubMed (85%) databases for literature search. Eighty percentage (80%) have accepted that Research4Life have very high or high importance on their scholarly. 75% have no direct access to the required user name and password which has prevented its use from anywhere at their appropriate time. Only 10% have gained formal training. The resources available through Research4Life has helped NHRC library users to gain full-text of costly academic and professional peer-reviewed content very easily. Research4Life resources has enhanced the study and research work of the users. It has helped them in publishing scholarly resources. Various recommendations were made such as to provide the required user name and password, to provide short or long-range formal training, make improvements in content

portals, improve search functionality, easy access to full-text resources, promotion through different channels, motivating users to increase the use of Scopus abstract and citation database with enriched scholarly literature across a wide variety of disciplines and Summon search which search for the full-text of Research4Life content for a particular country, and so on. NHRC library has been facilitating well to enhance the utilization of the Research4life resources among its users. It has helped users to access very easily a bundle of valuable resources that has helped users to improve their scholarly works. A few difficulties faced by the users in access to Research4Life resources are recommended to improve.

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LIST OF ABBREVIATIONS/ACRONYM

AGORA	Access to Global Online Research in Agriculture
ARDI	Access to Research for Development and Innovation
BPH	Bachelors of Public Health
GOALI	Global Online Access to Legal Information
FAO	Food and Agriculture Organization of the United Nations
HINARI	Health Inter Network Access to Research Initiative
ILO	International Labour Organization
MARC	Machine Readable Cataloging
MLIS	Master's in Library and Information Science
MoHP	Ministry of Health and Population
MPH	Master's in Public Health
NHRC	Nepal Health Research Council
NHRCL	Nepal Health Research Council Library
OARE	Online Access to Research in the Environment
OPAC	Online Public Access Catalogue
CDLIS	Central Department of Library and Information Science
UN	United Nations
UNEP	United Nations Environment Programme
WHO	World Health Organizations
WoS	Web of Science
WIPO	World Intellectual Property Organization

CHAPTER -I

INTRODUCTION

1.1 Background of the Study

Information is the primary need for researchers and scholars. It is a basic asset to various systems of human development. Moreover, information is vital for research and policymaking. Health science is one of the most important disciplines where continuous research is required. Quality education and research depend on access to quality information resources. High quality and relevant scientific knowledge are very crucial to scholarly work, research and innovations in any disciplines. So, smooth access to the most recent, high quality and relevant scientific knowledge is essential for health education and research. The primary results of scientific research first get published in scientific journals. The online availability of scientific journals has the advantage to get published research on time. But in developing countries like Nepal, academicians, researchers are facing problem in gaining smooth access to many scientific journals because of the high cost. This barrier in access to scientific journals behind the paywall has formed a knowledge gap between the developed and developing world.

Although the information is overloaded on the Internet, most of the academic and scientific journals which contain scientific research and books are available only for a subscription fee. The subscription is very high for journals, books and information discovery databases like Scopus, which are not affordable for developing countries. The capability and incapability of subscription of such information resources have generated a knowledge gap between the developed and developing countries.

The peer-reviewed journal is the primary vehicle for disseminating research. But despite improved access to the Internet, researchers in the developing world continue to face problem in gaining access to academic publications due to the high cost of subscriptions

of the international journals (Chan, Kirsop, & Arunachalam, 2011). For the past two decades some development agencies like UN, INASP with some other universities and publishers have been trying to fill the gap in access to international scientific journals and other literature through different programmes. Program for Enhancement of Research Information (PERI) of the International Network for the Availability of Scientific Publication (INASP) is one of that kind of program. Another very popular and widely used is Research4Life.

Research4Life is the collective name for five programmes – Access to Research in Health (Hinari), Access to Research in Agriculture (AGORA), Access to Research in Environment (OARE), Access to Research for Global Justice (GOALI) and Access to Research for Innovation (ARDI) (Research4Life, 2021). Research4Life aims to fill the knowledge gap by providing free access to the most recent, high quality and relevant scientific knowledge. Research4Life has provided researchers at more than 10,000 institutions in more than 120 countries with access to up 140,000 leading journals, books, databases, reference sources from more than 180 publishers in the fields of health, agriculture, environment, legal information, applied sciences and other social science disciplines (Research4Life, 2021). Research4Life is a public-private partnership of WHO, FAO, UNEP, WIPO, ILO, Cornell and Yale Universities, the International Association of Scientific, Technical & Medical Publishers and up to 155 international publishers. Research4Life is empowering higher education and research with access to scientific knowledge that was never before imagined (Research4Life, 2021).

The Nepal Health Research Council (NHRC) is a national apical body responsible for providing scientific study and quality health research in the country with the highest level of ethical standards. NHRC was established in 1991 to fulfil its main objective of bringing about improvement in the health status of the people of Nepal (NHRC, 2019). NHRC has been focusing on research regulation, promotion of research activities, evidence generation including translation into policy and practice, capacity building, conducting research projects, and providing health research grants. NHRC library as one of the important unit was established to provide research-based health information to health researchers to fulfil the objectives of the NHRC (NHRC, 2019). The library is open to all health and related

professionals involved in research activities. The NHRC library servers as a repository for health research-related information and resources including Research4Life databases (NHRC, 2019).

The study is intended to do scientific research on the uses and impact of Research4life resources among health research council NHRC library users. The study identified how the researchers and academicians were taking advantages of the Research4Life resources made available by the library. The study recommended the motivational and promotional aspect of the use of Research4Life resources through the NHRC library. And had identified the needful areas of improvements in access and use of Research4Life based on user's recommendations.

1.2 Statement of the Problem

The research topic is linked with the uses and impact of Research4life resources on NHRC library users. Research4Life program grants free to scientific journals, books and databases in Nepal and low-income countries since its first programme Hinari launched in 2002. Collectively the five programmes provide access to up 140,000 leading journals, books, databases, reference sources from more than 180 publishers (Research4Life, 2021). There are above 400 institutions that have registered for its access from Nepal. And about one-third of them are health institutions. But there could be many factors that may have an influence on proper utilization of the Research4Life resources and hence limiting the intended impact. It has not identified any proper research conducted on the use and impact of Research4Life resources in the NHRC library or Nepal. This study was helpful to assess the importance of Research4Life resources so that the service providers also know their contribution. This study had investigated whether or not such huge resources available through Research4Life programmes were adequately used in the NHRC library. What is the impact of this huge volume of free scientific literature in medical science, research, education and innovations? There is also a need for proper recommendations to Reserch4life authorities to improve the content and accessibility as per the need and demands of its users. The study had also found what are the factors influencing the level of use in the institutions. And what were the barriers to access to Research4Life?

1.3 Objectives of the Study

General Objective

The general objective of the study is to find out the uses and impact of Research4Life resources in the NHRC library.

Specific Objective

The specific objectives are as follows:

1. To find out the uses of Research4Life resources on NHRC library users;
2. To find out the impact of Research4Life resources on their study and research; and
3. To identify the areas of improvements in access and use of Research4Life resources.

1.4 Research Questions

1. What is the uses of Research4Life resources by the users of the NHRC library?
2. How Research4Life resources has made impact on study, research and other scholarly works of the users?
3. What are the limitations and challenges in utilization of Research4Life resources by the NHRC library users?

1.5 Significance of the Study

Information is the basic assets to various systems of human development, from enhancing education and research to stronger evidence-based policymaking. Health science is above all other sciences. This is a directly related discipline with human life. So the scientific literature is very important for health education and research. A peer-reviewed journal is the primary sources of scientific knowledge and it is very important to any scholarly work,

research and study in any discipline. But the cost of science journals is very high. The ranges from USD 2,021 to USD 5,508 on average (Bosch, Albee, & Romaine, 2019). Also, international books are very costly and a particular library can't subscribe to all books. Similarly, databases for discovery like Scopus is a great tool for researchers in the literature search. Research4Life has provided the privilege to low and middle-income countries in gaining free access to these costly scientific journals, books and databases. So the Research4Life resources and uses seem very significant for the research institutions in a country like Nepal. Nepal has been given access to Research4Life resources from the very beginning of the existence of the Programmes in 2002. But no any published data or study on the uses and impact of Research4Life resources in Nepal is found during the search in different indexing portal including NEPJOL in the past 16-17 years. My study was the beginning of a formal study and research on the accessibility of Research4Life resources for Nepalese researchers. A significant result of my study helped to know the importance of Ressearch4Life resources for NHRC library users and hence for Nepal. It will able to recommend the significant areas of improvements in Research4Life to overcome the barriers of its accessibility with these available results of my study.

Given the above, the significance of this study can be summarized as follows:

- The results and findings of this study had provided a basis of better utilization of Research4Life resources by NHRC library users and health scholars.
- The research findings recommend better impact stories.
- The research findings recommend the way to enhance the use of Research4Life resources in the NHRC library.
- To the decision-makers, the finding of the study is an eye-opener in understanding the needs for improvements in the Research4Life resources to minimize the user's challenges.

1.6 Limitation/ Delimitation of the Study

The conceptual scope of the study is concerned with the full-text access to scientific information available through the Research4Life program in Nepal and their impact on study, research and innovations. There are various sources and roots to get full-text resources. Research4Life provides and authorized free access to a huge number of very costly scientific literature and databases online. It provides access to journals, books, reference sources, databases for literature search, specific search engine through a single portal. Search to Research4Life resources are also linked with common search database like Google Scholar, PubMed, etc. The contents are also very reliable and authentic because the UN and other renounced stakeholders are involved in this project. The resources are very useful for the science scholars and it also covers contents from social sciences, law and justice. The resources are very useful for scientific research, study and policymaking. These types of resources will enhance the research work, teaching and learning and making the decision.

Every good thing has some limitations. The limitation of the study was that the study was focused only on Research4Life which provides access to online information in the fields of health, agriculture, environment, applied sciences and legal information only. That had limited access to information resources in other disciplines like management, economics. The area of the study was limited to NHRC library users only. The users of NHRC were mostly health science researchers and their interest and experience will be limited to Hinari. This also excluded other subscribed or free resources for Nepal. The source of financial support is not clear. The research period was limited to three months. The research work was very badly impacted by the COVID-19 pandemic and resulted in over a year long delay in research completion.

1.7 Definition of Literary Terms

Database:

A database is an essential, and systematically organized collection of information, records, files in whatever form are related to each other.

Journal:

It is a periodical dealing especially with matters of current interest. An academic or scholarly journal serve as permanent and transparent forums for the presentation, scrutiny, and discussion of research relating to a particular academic discipline.

Medical science:

Medical science is a very important part of healthcare, as it works in cutting edge medical research, developing and improving medicines.

Peer review:

Peer review is the evaluation of work by one or more people with similar competencies as the producers of the work. In academia, scholarly peer review is often used to determine an academic paper's suitability for publication.

Portal:

Portal refers to a website serving as a guide or point of entry to the World Wide Web and usually including a search engine or a collection of links to other sites arranged especially by topic.

1.8 Organization of the Study

This descriptive study is intended to identify the use and impact of Research4Life resources on NHRC library users. The thesis report will be divided into the following five chapters:

Chapter 1: Introduction and background of the study. This chapter consists of the background information of the study, statement of the problem, research objectives, research questions, significance of the study, limitation/delimitation of the study, definition of terms and organization of the study.

Chapter 2: Literature review. The chapter covers the knowledge discovery related to the research topic. It mainly covers the literatures on uses, impact and influence of Research4Life and other online information resources on study, research and innovation work of the scholars, online access to information resources, the value of peer-reviewed scientific journals for research scholars, cost of subscriptions vs economic conditions, and role of NHRC in research and development.

Chapter 3 Chapter three provides an overview of the research methodology which consists of research method applied, research design, area of study, target population, sampling procedure, data collection methods, data analysis procedures and data presentation method.

Chapter 4: This chapter presents analysis and presentation of data, presentation of the findings of the extent to which the use and impact of Research4Life resources, the factors influencing its use, the recommendations from the respondents on areas of improvements for the Research4Life.

Chapter 5: This chapter provides a summary, finding, conclusion and recommendations about the extent to how Research4Life has used and its impact on users of the NHRC library, promotional aspects, capacity building, and content and context improvement.

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CHAPTER –II

REVIEW OF LITERATURE

Review of available literature in the targeted area of research is an important aspect of any research, which enable one to understand the past trends in research output in any particular discipline. That is, the review of literature aims to make the research awareness of exiting work on the topic under investigation so that the new knowledge can be added to the existing one. It helps a researcher to build a base for the new research. A literature review helps a researcher to avoid duplication of work, obtain methodological insights, and identify recommendations for further research and seeking support for grounded theory. For this study also, an attempt has been made to discover relevant existing research studies as a published body of research. Various primary and secondary sources of information were consulted for locating studies and information relevant to the current study.

Scientific research is the basis for innovation and development. It builds on scientific literature and lives from the exchange of knowledge. Even though more and more knowledge is shared through open access journals and repositories, modern science still depends on access to journals that have to be purchased. Institutions in developing countries often lack funding to do so. Through the Research4Life partnership, prominent publishers, enable not-for-profit national academic, research, or government institutions to access scientific, peer-reviewed journals for free or at a very low cost. In this way, Research4Life aims to close the knowledge gap between developing and industrialized countries (Research4Life, 2020).

Research4Life programmes developed with aim to fill the knowledge gap between developed and developing countries by providing free or affordable online access to the most recent, high quality peer-reviewed academic and professional knowledge to empower higher education, research and innovations (Research4Life, 2020).

Hinari is first Research4Life programme. Launched in January 2002, the Hinari Research for Health programme is managed by the World Health Organization (WHO) together with major publishers provides access to up to 21,000 journals, up to 69,000 e-books, up to 115 other information resources   biomedical, health and related social sciences (WHO, 2020).

AGORA programme launched in 2003, is managed by the FAO in partnership with Cornell University and up to 60 publishers. AGORA provides access to 60,000 information resources covering agriculture, fisheries, food, nutrition, veterinary science and related biological, environmental and social sciences (FAO, 2020).

Launched in 2006, OARE programme is managed by the United Nations Environment Programme (UNEP) in partnership with Yale University and a group of international publishers provides access to up to 40,000 information resources in a wide range of environmental science disciplines (UNEP, 2020).

Launched in 2009, ARDI programme is coordinated by the WIPO together with its partners in the publishing industry provides access to up to 29,000 information resources in the diverse fields of science and technology with a specific focus on engineering and innovations (WIPO, 2020).

Launched in 2018, GOALI is a newest programme of the Research4Life is coordinated by the International Labour Organization (ILO) and its partners. GOALI provides access to up to 14,000 information resources in selected subject areas of law and related disciplines from the world's leading academic publishers (ILO, 2020).

The utilization of Research4Life resources has impacted positively on the research productivity of scientists. Dr Arun Neopane in his role as a paediatrician at Kathmandu's Shree Birendra Hospital stated that "more sophisticated medical research will only be possible in Nepal with access to the literature that HINARI provides" (Gedye, 2012).

The research article by M. Tober found that for only an overview requirement of the topic, Scopus is the most effective search engine whereas for in-depth investigation in the area of life science and closely related topics, PubMed is more appropriate. Google scholars contains a wide variety of publication types including thesis. But it also contains multiple hits for a single literature from different data source. ScienceDirect is a single publisher's (Elsevier) database which have Scopus like features (Tober, 2011).

Google Scholar (GS), Web of Science (WoS), and Scopus being widely consulted databases by researchers for literature search and evaluation. It is found that Google Scholar contains nearly all citations found by WoS (95%) and Scopus (92%), and also have a large amount of unique citations. GS contains a significant minority of non-English literatures and around half of the unique citations are from other than journals (Martín-Martín, Orduna-Malea, Thelwall, & Delgado López-Cózar, 2018).

Literature search databases like PubMed, Scopus, and Web of Science are differ in terms of their coverage, focus, and the tool they provide. PubMed focuses mainly on life sciences and biomedical disciplines, whereas Scopus and Web of Science are multidisciplinary. It was found that Web of Science is the easiest tool to use for bibliometric analysis services; however, it is very costly. Scopus is same a Web of Science (Au - AlRyalat, Au - Malkawi, & Au - Momani, 2019).

Access to HINARI content has resulted in clear improvements in evidence-based health care, problem-based learning, teaching environment, and policymaking, in which students and medical practitioners learn from the experience of actual cases that are written up in the journals. It has also helped to develop informed and relevant research agendas, create well-informed and successful research grant applications, conduct research and establish credible relationships with the medical research community worldwide (Gedye, 2013).

Program for Enhancement of Research Information (PERI) is one of the program of the International Network for the Availability of Scientific Publication (INASP) which began as a pilot program in 2001. It aimed to bridge up the digital gap between developing and developed world. It has provided full text access to more than 25000 high quality scientific

journals. It also helped to strengthen skill of publishing in journals and books, ICT skills. Use of the PERI resources helped teachers, students, and researchers to improve their knowledge in their area of interest and developing new research (Sthapit, 2007).

After the HINARI came to Bangladesh in April 2003 and its growth in uses over the last 12 years has a significant impact on Bangladesh academic sectors. HINARI itself creates a significant impact among researchers in Bangladesh which already depicted here in terms of registration growth, training outcome, increasing of research publications in peer-reviewed scientific and local journals, the advancement of knowledge, economic benefit of organizations raised by avoiding subscriptions of costly international journals which are freely available through HINARI, and finally, country's benefit (Uddin et al., 2017).

Considerable effort and research have focused on promoting Continuing Medical Education (CME) content sharing in low-income countries (LICs). Research4life offers free access to up-to-date biomedical and health literature but it does not address the issues related to smooth access to the resources that is limited internet connectivity and lack of basic ICT knowledge among professionals in LICs. Other difficulties are logging into HINARI and many participating organizations experience problems of organizing password distributions even when there is internet connectivity (Li, Thomas, Rana, & Stoner, 2017).

There is a significant relationship between the individual factors and utilization of Research4Life databases. The individual factors that influence the use of Reserch4life are intention to use, the task at hand, computer anxiety, prior information and communication technology (ICT) experience, online searching skills, and computer and Internet self-efficacy. There is a good correlation between these individual factors (Obasuyi & Okwilagwe, 2018).

The factors that influenced access to Research4life databases like the need for a password and proper logging in, internet connectivity, the speed which has significant improvements over the past 12 years. But the other factors mentioned remains the same at the current time like librarian intension to share a password, users hurriedness, boycotting the librarians,

etc. The study found that difficulties are logging into HINARI and that sometimes it is librarians that limit access to passwords (Smith et al., 2007).

There is growing recognition that the capacity to conduct research and to share the resulting knowledge is fundamental to all aspects of human development, from enhancing education to stronger evidence-based policymaking. The peer-reviewed journal is the primary source for disseminating research is largely available in digital format. But despite improved access to the Internet, researchers in the developing world continue to face two problems—gaining access to academic publications due to the high cost of subscriptions and getting their research published in "international" journals, because their work is either considered to be only of local or regional interest or does not meet the quality standards required by the major commercial indexes (Chan et al., 2011).

Average prices for science, technology, and medical (STM) serials remain the highest, compared with prices for serials in other subject areas. Chemistry has historically seen the highest average serials prices and that has not changed. This year's data reports the average price for chemistry journals is $5,950 annually. Where the minimum price of a science journal is above USD2000 per journals (Bosch, Albee, & Romaine, 2019)

The Nepal Health Research Council (NHRC) is a national body that focuses on health research regulation, promotion of research activities, evidence generation including translation into policy and practice, capacity building, conducting research projects, and providing health research grants. NHRC library as one of the important unit was established to provide research-based health information to health researchers to fulfil the objectives of the NHRC. The NHRC library servers as a repository for health research-related information and resources including Research4Life databases (NHRC, 2019).

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CHAPTER –III

RESEARCH METHODOLOGY

This study had adopted descriptive research method. The area of study was the library of the NHRC. The study was targeted at NHRC library users and the data was collected from the visitors/users of the NHRC library. Random sampling techniques were used to select respondents. Data was collected using a questionnaire and presented and analyzed using statistical methods. The study will be recommended motivational and promotional aspect of use and impact of the Research4Life. The whole research process had followed the guidelines and rules of the CDLIS for doing research, report writing.

3.1 Research Design

This was a cross-sectional quantitative descriptive study conducted at Nepal Health Research Council Library (NHRC Library), Maitighar, Kathmandu, Nepal. A survey method was adopted for data collection. A well-structured validated questionnaire was used to collect the data from the respondent. The study was conducted from January 2020 to February 2021. The response of the respondent was evaluated to meet the objective of this study.

3.2 Population of the Study

The population of the study was the library users at the NHRC library, Maitighar, Kathmandu, Nepal. Those who have visited the NHRC library for the study, research, teaching or other learning purpose were taken into account for the study. The sampling unit of the study was the NHRC library user. Staffs of the NHRC library as well as the users not giving consent to data collection were excluded from the study.

3.3 Sample Size and Sampling Procedures

A random sampling method used to select samples for the study. A total of 50 users of the NHRC library were considered for the study and data were collected from them. The random sampling method was done. Out of them, only 40 respondents were considered for this study remaining 10 had incompletely filled the form and excluded from the study. COVID-19 pandemic has been a great impact on people's movements, physical visit to library and other public places as well as all kinds of academic social activities since it's the very beginning of 2020. This pandemic had been a great impact in data collection work which lead a significant delay in completion of the thesis work.

3.4 Data Collection Procedure

A validated (Content validated) questionnaire was used to collect the data. The questionnaire had structured and semi-structured questions that were filled by researchers by face to face interview. Data were collected from the users of NHRC libraries specific to Research4Life users. Before data collection, all information regarding this study was explained they are also informed regarding their rights to withdraw from the study at any time. Consent was taken from the respondents after giving all information. After taking consent from the users, data were collected. The administration of the questionnaire was through the "drop and pick later". Some questions were consisted aimed at obtaining general information about the respondents (socio-demographic data). Questions were focused on the key dimensions that are used to determine the uses and impact of Research4Life resources and also recommendations for the improvements. Follow up on the respondents was done through telephone calls, emails. The questionnaires then collected upon completion and subsequently analyzed. The questionnaire method preferred to collect data because questionnaires are easy to administer, to analyze and were economical in terms of time and money.

3.5 Data Analysis Procedure

It has checked the complete filled-up questionnaires from respondents to ensure the accurate result, consistent whereas incomplete questionnaire form the respondents are

excluded for analysis. The data collected from the questionnaires are tabulated and classified for analysis and presentation. Quantitative data was analyzed using descriptive statistical methods with simple statistical tool. Before analysis, the data were fed into Microsoft Excel and then analyzed. Statistical tools like frequency distribution and percentage have been used to analyze the data. The data was then presented in tables by the use of frequencies and percentages also to show the findings and comparisons. Finally relating to the findings, conclusions are drawn.

CHAPTER –IV

DATA ANALYSIS AND PRESENTATION

This chapter incorporates the analysis and interpretation of collected data through the questionnaires. The data and information collected from the respondents are presented, interpreted and analyzed according to the research questions formulated for the study. A total of 50 users of the NHRC library were considered for the study and data were collected from them. The random sampling method was done. Out of them, only 40 respondents were considered for this study and 10 were declined to fill out the questionnaire. Some of them rerated that they do not have much time to fill the questionnaire and a few responded that they are not much familiar with Research4Life programmes. Based on the questions in the questionnaire, collected data are classified, and tabulated for analysis and interpretation for attaining the stated objectives of the research. It is hoped that the data and tables are sufficiently and correctly tabulated and presented.

4.1 Demographic Information about the Respondents

The first question was asked to know the demographic information of the NHRC library users. That is to know the gender, education level and major subject interest. As the name and nature of the library, all most of the respondents found from the health discipline. The collected response of the respondents is tabulated, calculated the frequency and percentage in Table 4.1.

Table 4.1 Demographic information of the respondents

Characteristics	No. of respondents	Percentage (%)
Gender		
Male	19	47.5
Female	21	52.5
Education		
Undergraduate	16	40
Postgraduate	24	60
Higher degree than postgraduate	0	0
Subject of interest		
Medicine	40	100
Others		

Source: filed survey, 2020-21

Table 4.1 shows among the total respondents, the greater number of respondents were female. Where male respondents were also very close to the number of female respondents with a male and female ratio of 0.90. Out of a total 60% of the respondents were students of postgraduate degree students or researchers. But from the education degree they mentioned has shown that almost all of them were from the health disciplines. Participants were from the public health, medicine, and nursing departments.

4.2 Uses of the NHRC Library

The second question was asked to know the uses of the NHRC library by the users. It has included three characteristics since when users are using the NHRC library, frequency of their library visit and purpose to visit the library. The collected response of the respondents are tabulated and frequency and percentage were calculated in table 4.2.

Table 4.2 Uses of the NHRC library

Characteristics	No. of respondents	Percentage (%)
Since when using NHRC library		
<1year	11	27.5
1year-5 years	23	57.5
>5 year	6	15
Average No. of respondents visiting NHRC library		
Daily	10	25
Once in week	9	22.5
Once in month	5	12.5
Occasionally	16	40
Purpose of visiting the NHRC library		
Use of library print resources	12	30
Use of e-resources	16	40
Both print & e-resources	20	50
Others	2	5

Source: filed survey, 2020-21

Table 4.2 shows, the answers against the question since when respondents were using the library were grouped into three ranges, less than 1 year, 1 to 5 years and more than 5 years. It was found that 57.5% of the respondents had been using library services for 1 to 5 years. 27.7% (11) were new users, visiting for less than one year. Out of that 15% of long-range visitors. Similarly, the average No. of respondents the visit the library was also mix up. Most of the respondents had visited the library occasionally forty percentage (40%), followed by daily 25%, once in a week, 22.5% and once in a month was made by the least number of respondents 12.5%. A sum of ninety percentage (90%) is visiting the library to use e-resources or both print and e-resources. The other 5% have also mentioned that they

are visiting the library to use the library database and e-resources. The users had also shown their interest in the use of print resources available in the library.

4.3 Uses of the Research4Life Resources

In this section, several questions were asked to know one of the main objectives of this research. The questions were designed to know different aspects of the uses of Research4Life programmes by the users. That was to know the characteristics associated with respondents' knowledge about the Research4Life programmes, from where they were using, which programme they were using, frequency and duration of use, the average number of resources downloads, which database uses for literature search, using any alternatives or not. It also asked to know the environments and circumstances available to uses of the Research4Life programmes, like availability of username and password for personal use, gained any training or guidance or not. Thus this section is grouped into different subsections as below. The answers are presented in different tables associated with the subgroups with the frequency of respondents and respective percentages.

4.3.1 Characteristics associated with knowledge about and access to Research4Life Programmes

In this subgroup, the questions were asked to know the knowledge about and access to Research4Life Programmes and their access centers.

Characteristics associated with knowledge about and access to Research4Life Programmes

Table 4.3.1 Characteristics associated with knowledge about and access to Research4Life Programmes

Characteristics	No. of respondents	Percentage (%)
Knows the Research4Life		
Yes	40	100
No	0	0
Uses Research4Life		
Yes	40	100
No	0	0
Reason for not using Research4Life		
Don't know	0	0
Didn't need	0	0
Others	0	0
Research4Life Programmes database assessing center		
NHRC library	40	100
Affiliated institute library	11	27.5
From home	3	7.5
From the office	8	20
Other places	0	0
Having a user name and password for Research4Life		
Yes	10	25
No	30	75

Source: filed survey, 2020-21

This table 4.3.1 shows, all respondents knew about the Research4Life program and had used Research4Life programmes. All respondents had used the program from the NHRC library. Some of the respondents also used from affiliated institutes besides the NHRC

library (27.5%). from home (7.5%) and office (20%). Seventy five percentage (75%) of the users have no direct access to the required user name and password to use the Research4Life programmes. Which has prevented them to use it from the home and personal computers. So they have to go to the access centers from where the Research4Life programmes accessible. Only 25% have access to the username and password.

4.3.2 Uses of the Research4Life Programmes

This question has asked respondents to select multi-choice options to know which of the five Research4Life Programmes respondents are using. The answers are presented in table 4.3.2.

Table 4.3.2 Uses of the Research4Life Programmes and no. of respondents of use

Program using under Research4Life Programmes	No. of respondents	Percentage (%)
Hinari	40	100
AGORA	10	25
OARE	11	27.5
ARDI	9	22.5
GOALI	6	15

Source: filed survey, 2020-21

All respondents were answered that they have used Hinari. Only 27.5% of the respondents have also used OARE, similarly 25% AGORA, 22.5% ARDI and 15% GOALI. Although 100 percent of the users were in the medical field, other portals of the R4L program were also found to be used. This shows that besides Hinari, the users were also familiar with other programmes of the Research4Life.

4.3.3 Frequency of use and time spent on Research4Life Programmes

In this section, questions were asked to know about the frequency of use and time spent on Research4Life Programmes. The answers are presented in table 4.3.3.

Table 4.3.3 Frequency of use and time spent for Research4Life

No. of respondents of using Research4Life Programmes	No. of respondents	Percentage (%)
Daily	12	30
Once in a week	5	12.5
Once or twice in a month	2	5
Occasionally	12	32.5
Only if needed	8	20
Time spent while using Research4Life Programmes		
1 hour	10	25
2 hours	4	10
3 hours	9	22.5
Depends on need basis	17	45

Source: filed survey, 2020-21

In response to the query for the number of respondents using Research4Life programmes, 32.5% answered that they are using Research4Life Programmes occasionally whereas 30% were using regularly, 20% have used on a need basis, 12.5% have used once in a week and only 5% have used once or twice in a month.

A majority 45% answered that they spent time on the use of Research4Life programmes on their need basis. 25% answered that they only spent 1 hour. 22.5 % spent 3 hours and only 10% spent 2 hours.

4.3.4 Purpose and Reason for Using Research4Life

In this section, the users were asked to question the main purpose and reason for using Research4life programmes. Respondents have given multiple-choice options. The answers of the respondents are tabulated, calculated the frequency and percentage and presented in table 4.3.4.

Table 4.3.4 Purpose and reason for using Research4life programmes

Purpose of using Research4Life Programmes	No. of respondents	Percentage (%)
Journal search	39	97.5
Book search	20	50
Databases search	15	37.5
References resources search	11	27.5
Others	0	0
Reason for using Research4Life Programmes		
Authentic information search	18	45
Full-text download	32	80
Unavailability of alternative sources	4	10
Better than other	12	30
Easy to use	14	37.5

Source: filed survey, 2020-21

In response to the multiple-choice options question for what purpose they are using Research4Life Programmes, Nearly all (97.5%) answered that they were using Research4Life Programmes for access to journals. Fifty percentage (50%) used Research4Life Programmes also to search books, 37.5% also used database available through Research4life Programmes and 27.5% used it for reference resources.

Likewise, in response to the multiple-choice options question for why they are using Research4Life Programmes, eighty percentages (80%) answered that they are using Research4Life Programmes to download full-text resources. Forty-five percentage (45%) also answered that they are using it to search for authentication of information. More than thirty-seven percentages (37.5%) answered that it is easy to use. Thirty percentages (30%) answered that it is better than the other resources they have used. Only ten percentages (10%) mentioned that other alternative is unavailable.

4.3.5 Average Full-text Download Per week from Research4Life Programmes

In this section, the users were asked to question that on average how many and what types of form they download per week. The answers are presented in table 4.3.5.

Table 4.3.5 Frequency of use and time spent for Research4Life

Full-text downloads per week on average	No. of respondents	Percentage (%)
Journal articles		
≤5	19	47.5
6 to 10	13	32.5
>10	8	20
Book chapters/sections		
≤5	14	35
6 to 10	2	5
>10	0	0
Others		
≤5	0	0
6 to 10	0	0
>10	0	0

Source: filed survey, 2020-21

Most of the respondents used to download journals and among them most had downloaded less than 5 articles in a week. Only 40% have used to download book chapters/sections and among them most had downloaded less than 5 books chapter/section.

4.3.6 Uses of the Database for Literature Search

In this section, the users were asked to question which database they are using for the literature search and the most frequently used databases. The answers of the respondents are tabulated, calculated the frequency and percentage and presented in table 4 4.3.6

Table 4.3.6 Uses of the database for literature search

Characteristics	No. of respondents	Percentage (%)
The database used for literature search		
Scopus	7	17.5
PubMed	34	85
Google Scholar	38	95
Summon search	9	22.5
Others	4	10
Most frequently source used for literature search		
Scopus	1	2.5
PubMed	20	50
Google Scholar	19	47.5
Summon search	1	2.5
Others	5	12.5

Source: filed survey, 2020-21

The table shows that Google Scholar is very popular among the users and the most frequently used database for literature search. In this multiple-choice options, 95% answered that they are using Google Scholar which was the second most popular portal whereas 85% answered that they are using PubMed database which is the most popular search for literature search. The third popular was Research4Life Summon search. 22.5% have used Summon search. Only 17.5% have used Scopus. PubMed and Google scholar

are most frequently used database by the respondents. Fifty percentage (50%) have used PubMed and 47.5% have used Google Scholar most frequently for literature search.

4.3.7 Available Guidance, Training and Tutorials Available for Reseach4life Uses

In this section the users were asked to answer about the training they have participated in, the guidance they have gained or tutorials they have used to enhance their knowledge on the use of Research4Life Programmes. The answers of the respondents are tabulated, calculated the frequency and percentage and presented in table 4.3.7

Table 4.3.7 Training, guidance or tutorials available

Characteristics	No. of respondents	Percentage (%)
Training or guidance received on Research4Life database		
Formal training received	4	10
Online training received	1	2.5
Guidance from librarian	30	75
Online tutorials	6	15
Not received any training or guidance	6	15

Source: filed survey, 2020-21

The table shows that the contribution of librarian guidance was highest. Seventy five percentage (75%) have answered that they have gained guidance from the librarian. Only 10% have received formal training and none of the participants has participated in any online training. Fifteen percentage (15%) have answered that they have used online tutorials and the remaining 15% have answered that they have not received any guidance or tutorials. A single respondent (2.5%) has taken online training.

4.4 Impact of the Research4Life Resources

This is another section, in which several questions were asked to know about another objective of this research. The questions were designed to know the importance of Research4Life Programmes on the research and education work of the users. How many publications the users have published to date. It has also asked whether they have used other resources to download full-text access databases. This section is also grouped into different subsections as below. The answers are presented in different tables associated with the subgroups with the frequency of respondents and respective percentage.

4.4.1 Importance of Research4life Programmes on Research and Education Work

In this section, the users were asked to question about the importance of Research4Life Programmes on research and education work. The answers of the respondents are tabulated, calculated the frequency and percentage and presented in table 4.4.1

Table 4.4.1 Importance of Research4Life Programmes on research and education work

Importance of Research4Life Programmes on research and education work	No. of respondents	Percentage (%)
Very high	19	47.5
High	12	30
Medium	7	17.5
Low	2	5
Very low or none	0	0

Source: filed survey, 2020-21

It was a very good response from the respondents. Eighty percentage (80%) have accepted that Research4Life have very high or high importance on their education and research work. 47.5% said it has very high importance, 30% said high importance. 17.5% said it has

medium type importance and only 5% said it has low importance. No one said that it has very low or no importance in their research and education work.

4.4.2 Number of Own Publications of the Users

This question was asked to know how many respondents have their publications. The numbers of publications were grouped into three different ranges for each document types. The three different ranges are taken as less or equal to 5 publications, 6 to 10 publications, and more than 5 publications. The answers of the respondents are tabulated, calculated the frequency and percentage and presented in table 4.4.2.

Table 4.4.2 Number of own publications of the users

Having own publications	No. of respondents	Percentage (%)
Research articles		
≤5	19	47.5
6—10	2	5
>10	2	5
Books/Book chapters		
≤5	5	12.5
6—10	0	0
>10	0	0
Policy documents		
≤5	0	0
6—10	1	2.5
>10	0	0
Others		
≤5	2	5
6—10	0	0
Having no publications	17	42.5

Source: filed survey, 2020-21

Though 47.5% had less than 5 research articles. 57.5% of uses had their research articles. 5% of the respondents had 6 to 10 research articles. And 5% had more than 10 research articles. 12.5% have their books or book chapters. Two respondent has more than 5 policy documents and one has less than 5 other types of publications. 42.5% respondents have no any publications.

4.4.3 Use of Other Resources for Full-Text Access or Literature Search

This question was asked to know whether respondents use other resources for closed access to full-text resources or Research4Life is sufficient for them. The answers of the respondents are tabulated, calculated the frequency and percentage and presented in table 4.4.3.

Table 4.4.3 Use of other resources for full-text access or literature search

Characteristics	No. of respondents	Percentage (%)
Do respondents use other resources to get full-text		
Yes	23	57.5
No	17	42.5
Other resources used		
Google Scholar	6	15
PubMed	8	20
Sci-Hub	1	2.5
Others	12	30
Easier to use		
Research4Life	32	80
Others	8	20

Able to find all need content from Research4Life		
Yes	24	60
No	16	40

Source: filed survey, 2020-21

Fifty-seven and half percentage (57.5%) of respondents answered that they are using and 42.5% answered that they are not using other resources to get full-text resources. Altogether 35% [15% (Google Scholar), 20% (PubMed)] used to get full-text access, but they do only provide open access full-text. 2.5% has mentioned that they have used Sci-HUB to access full text closed access resources. The name of other databases mentioned by 30% of the respondents was, NepJol, Academia, BMJ, PLOS.

Eighty percentage (80%) of respondents have answered that they found Research4Life Programmes easier to use and 20% answered others are easier than Research4life. 60% answered that they found Research4Life is sufficient to get all their needed full-text resources. 40% said not sufficient to get all their needed full-text resources.

4.5 Need and Requirement Suggestions to Improve Research4life Programmes Content and Features

This is the last section of the questions. In this section also some questions were asked to know the third objective of the study. That is to understand the characteristics associated with the areas of improvements in access and use of Research4Life Programmes. The respondents were asked to answer the questions listed in the sub-section below. The answers are presented in different respective tables associated with the subgroups with the frequency of respondents and respective percentage.

4.5.1 Suggestions to Add Missing Contents

In this question, the respondents were asked to suggest if they have found any missing content in the Research4Life Programmes that they were looking for. A very less number of responses received against this question. The answers of the respondents are tabulated,

calculated the frequency and percentage and presented in table 4.5.1 and the observations are also described below.

Table 4.5.1 Contents missing in Research4Life Programmes

Content missing in Research4Life Programmes	No. of respondents	Percentage (%)
Journal	3	7.5
Books	2	5
Publisher	0	0
Database	1	2.5

Source: filed survey, 2020-21

Table 4.5.1 shows, only 7.5% had marked about journals but not clearly indicated any name. Many of the respondents have said that they are not able to find many books but they don't remember the titles at present. But only 5% have indicated in the answers that they found missing books. One user had mentioned the BMJ database missing in the Research4Life Programmes.

4.5.2 Characteristics limiting the use of the Research4Life Programmes

Table 4.5.2 Characteristics limiting the use of the Research4Life Programmes

Limits in using Research4Life Programmes	No. of respondents	Percentage (%)
Not have assess of password	30	75
Poor computer skill	7	17.5
Complex search system	7	17.5
Internet problem	10	25
Inadequate training and tutorials	9	22.5

Source: filed survey, 2020-21

Table 4.5.2 shows, seventy-five percentage (75%) of the respondents have answered that having no access to password for individual use have been limiting the uses of Research4Life resources. Twenty five percentage (25%) answered internet problem and 22.5% answered inadequate training and tutorials limiting the use. Other limitations responded as poor computer skill and complex search system.

4.5.3 Need of Support to Use Research4Life Programmes

In this question, the respondents were asked to suggest what kind of support they need more to use Research4Life databases in a much better way. This was also a multiple-choice option question. The answers of the respondents are tabulated, calculated the frequency and percentage and presented in table 4.5.3. And the observations are also described below.

Table 4.5. 3 Need for training, guidance and documents to use Research4Life Programmes

Suggestion for Research4Life Programmes	No. of respondents	Percentage (%)
Needs formal training	28	70
Publicity materials	9	22.5
Online tutorials	14	35
Others	4	10

Source: filed survey, 2020-21

Seventy percentage (70%) felt the need for formal training on Research4Life Programmes to enhance their knowledge in better utilization of Research4Life resources. 35% felt the need for more online tutorials, and 22.5% felt the need for more publicity materials. In the other requirements, most of the users has suggested the need for a user name and password for personal use. It has also suggested organizing short training instead of long training.

4.5.4 Expected Further Support from the NHRC Library in Terms of Research4life Uses

This was a subjective type's question where respondents were requested to suggest what further support from the NHRC library in terms of Research4Life uses. Based on the answers, it has grouped the answers and summarized in the form of table below

Table 4.5.4 Further support from the NHRC library in terms of Research4Life uses

Summary	No. of respondents	Percentage (%)
Satisfied	12	30
Need password	6	15
Training	17	42.5
Both training and password	2	5
More resources	2	5

Source: filed survey, 2020-21

Most of the respondents 47.5% have answered that they would like to have some short training and more guidance to make better use of Research4life Programmes. Twenty percentage (20%) of the respondents have also suggested to make available user name and password of Research4Life login so that they could use it from the home or their convenient places. 5% of respondents have answered that they need both training and password. 7.5% of the respondents have felt no need of any further support from the NHRC Library. Some answers are listed here as it is.

"Need formal training, provide user name and password for personal use."

"Training regarding Research4Life."

"Information about differences of all database search and when these database can be used for effective search."

"Good support ever."

4.5.5 Users Suggestion for the Need for Improvements in Research4life Programmes

This was also a subjective type's question where respondents were requested to suggest a suggestion for the need for improvements in Research4Life Programmes. Most of the users had answered that they find difficulties in access to full text resources and other kinds of complexities. They have suggested to improve the system to make the resources easily accessible. Some users have also suggested in this answers to make available user name and password of Research4Life login so that they could use it from the home or their convenient places. Some answers are listed here as it is. Some have also suggested for adequate advocacy and promotion of the Research4Life resources so that a majority of students and researchers get benefited from the Research4Life. Some selected answers are listed as it is below.

"Better website design. Easy access for subjects and proper categories. Automatic front of items/list"

"Some journals are difficult to access, therefore for such journals some alternative may be explored."

"It should be easily accessible from main portal"

"Many of the student they are unaware about Research4Life Programmes so information should be followed in responsive college."

4.5.6 Users Suggestion for any other Improvements for Research4life Programmes

This was also a subjective type's question where respondents were requested to suggest for the any other improvements in Research4Life Programmes. Here also the respondents have made similar type of suggestions. That is to share username and password, make improvements in the systems, advocacy and promotion among the other users.

CHAPTER –V

SUMMARY, FFINDING AND RECOMMENDATION

5.1 Summary

The Nepal Health Research Council (NHRC) is a national apical body responsible for providing scientific study and quality health research in the country with the highest level of ethical standards and its library is a vital unit. NHRC Library is one of the potential users and promoters of Research4Life programmes. This study was conducted to know the status of uses of Research4life resources by the NHRC library users and its impact on their study and research work. And also to know what additional support and resources help them to fulfil their requirements and use Reserch4Life programmes more efficiently. Research4Life has provided a tremendous amount of study and research materials. For Nepal and other lower-income countries, it has provided free access to online access to up 140,000 leading journals and books in the fields of health, agriculture, environment, applied sciences and legal information.

NHRC library is dedicated to providing research-based health information to health researchers to fulfil the objectives of the NHRC. It is open to the public. Mostly the students and researchers visit the library to use the print and electronic resources for their study and research work. Access to Research4Life resources with adequate guidance by the librarian, availability of free internet with computer and special collection of health resources attracts the users towards the library. Based on the special nature of the library, the visitors to the library are mostly health professionals.

NHRC library is one of the potential users of the Research4Life resources. The library promotes and trains users in the use of Research4Life resources. It has also provided free internet and computers to the user for its use. But there is no formal research on Research4Life that has been identified to date in Nepal. It would be significant to find the uses and impact of Research4Life resources in the NHRC library. this study is focused on

it. researcher expecting to have a significant result of this study that helps to know the importance of Ressearch4Life resources for NHRC library users, challenges in access and its impact on their performance in study and research. Based on the findings, it will also be able to recommend the significant areas of improvements in Research4Life to overcome the barriers of its accessibility for users of the NHRC library.

This study implies Research4Life programmes is one of the vital sources of closes access resources. Its proper use would have a better impact on the study and research work of scholars. Based on the responses given by users of the NHRC library and data analysis process following findings have been drowned.

5.2 Findings of the Study

- Visitors of the library are mostly from the health disciplines. There is no significant difference between male (52.5%) and female (47.5%) visitors.
- The visitors are masters and bachelor's degree students from different sectors of health education.
- The library has a good number of regular visitors. Some are visiting the library for the above five years (57.5%).
- The majority (72.5 %) of them have visited the library since the above one year.
- Users are visiting the library to use e-resources or both print and e-resources.
- All most of the respondents were familiar with Research4Life programmes and they are using them for their study and research.
- All most all respondents have used Research4Life programmes from the NHRC library.
- Seventy-five percentage (75%) of the users have no access to Research4Life programmes log in.
- All most all respondents have used Hinari programmes. Some of them are also familiar with other programmes of the Research4Life.
- About one third only uses Research4Life on daily basis. Fifty percentage (50%) uses it occasionally or on a need basis.

- Mostly the uses Research4Life programmes for journal access. Half of the respondents have also used it for books downloads. They have also used available database and reference resources.

- Users spend their times on Research4Life resources on their need basis. They spend 2-3 hours. One fourth said they spend only one hour on average per day.

- Users find Research4Life as a good source to download full-text resources. They also use it to get the authentic information.

- Google Scholar and PubMed are a very popular database for literature search. Summon Search and Scopus are rarely used.

- Library staff have played a big role in guiding users in the use of Research4Life resources. Very less number of participants have gained formal training. Some users have used online tutorials.

- Most of the users have accepted that Research4Life have a very high or high contribution on the research and education work of the users.

- Half of the respondents have their peer-reviewed, book or book chapters and policy document publications. Research4Life has helped them in their publication and research work.

- More than half of users have accepted that they have used only Research4Life to get full-text access. 42.5% are using other resources.

- Twenty percentage (20%) have to use Sci-Hub to get full-text access. PubMed, Google Scholar, NepJol, Academia are also used for full text. But they only provide open access resources.

- A larger number of users said Research4Life is sufficient for their information requirements.

- Most users find many books and some Nepalese journals are not in the Research4Life Programmes collection.

- Having no access to the password for personal use is limiting Research4Life uses. Users also feel slow Internet, complex search system, and inadequate training and tutorials are also limiting uses of Research4Life Programmes.

- Many of the users feel the requirements of adequate formal training from the NHRC.

- Most of the users suggested providing user name and password to make it easy access from home and anywhere as per their requirements.
- Users have also suggested making the database user friendly so that user can find full text easily.
- Adequate tutorials and alerts required to encourage the users to use Research4Life.

5.3 Conclusion

NHRC library has well served health researchers with access to Research4Life resources. The library has provided free internet and computers facility to users. Research4Life programmes is a main source of online information resources in the library. Library is open for public and users are mostly from health and related disciplines from different faculties. The main objectives of the study are to find out the present status of Research4life Resources being used by the Nepal Health Research Council library users, to find its impact on their study and research work, and to explore the areas of improvements in access and use of Research4Life resources. Based on the findings of the study, it can be concluded that most of the visitors visits the NHRC library to use Research4Life resources. Library staff has provided good guidance to users in the use of Research4Life resources. Users use Reserach4Life resources on regular basis. They mostly use Hinari programe as per their needs. They use it to download full-text journal articles and some book contents for their study and research. Scopus like databases are not adequately used. Users mostly consult Google Scholar or PubMed for literature search.

It has found that availability of free online resources through Research4Life has made users life easier. It has helped users to download full-text closed access resources which they use for their scholarly work. Users had published good number of research articles. Users have accepted that Research4Life have very high or high importance on their scholarly activities. In some area Research4Life need some improvements. It needs a scheme to make available of login authentications to individual users. The unavailability of username and password to maxim users are limiting its efficient use. Formal training is required for users for much better outcome among the users. Other promotional activities would attract to use the

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Research4Life resources and more users get benefited. The content portals database should made user friendly so that user can find full text easily and harvest the required references. So it is concluded that Reserch4Life is a valuable useful resources for the users of the NHRC library. It has made very good impact on study, research, training and other scholarly work by providing free access to a large number of academic and professional information resources. There are some areas of improvements suggested to enhance the use efficiency of the Research4Life resources.

5.4 Recommendations

I have analyzed the result of this study and made conclusions on the study. With the findings obtained following recommendation are drawn for further improvement. The following recommendation will be very helpful for the organization, government and policymakers for the improvement of the quality of such health research library in Nepal.

1. Username and password should be provided to the users for more efficient use of the Research4Life resources.
2. A short or long range formal training should be provided to users on regular basis so to enhance the capacity of the users.
3. Reseach4Life should improve search function and direct full text download options from the search results as in Google Scholar or PubMed like databases. The use of Scopus and Summon search should also be promoted among users.
4. Adequate promotional materials should be distributed to visitors to spread awareness among the beneficiaries about of the availability of access to Research4Life resources.

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ANNEX-I QUESTIONNAIRE

Subject: Request to fill the questionnaire   Date:

Dear Respondent!

I am a student of Master Degree of Library and Information Science of the Central Department of Library and Information Science, Tribhuvan University. I am intending to carry a research study entitled on "**Uses and Impact of Research4life Programmes on NHRC Library Users**". My research aims at examining and understanding the uses and impact of Research4Life resources used by NHRC library users and recommend needful improvements in Research4Life databases based on your feedback.

For this purpose, I have enclosed, herewith, an elaborate questionnaire for your kind perusal and feedback. I assure that this information provided by you will only be used for my research work and will be kept strictly confidential.

Thanking you for your support.

Yours faithfully,

Kumari Dipika

Researcher, MLIS, 4th Semester

Central Department of Library and Information Science

Tribhuvan University

Kirtipur, Kathmandu, Nepal

Enclosed: Questionnaire for your kind response

Questionnaire for the NHRC Library users

Research Title: Uses and Impact of Research4life Resources on NHRC Library Users

Necessary Instructions

1. Please put the tick mark (√) or select Yes / No option wherever necessary.

2. More than one options [MCO] are permissible wherever necessary.

3. Please give the information wherever options are not available.

4. Please give the additional information on separate paper wherever necessary.

---

1. General information

      Gender: Female [ ],   Male [ ]

      Educational qualification:

      Major subject interest (Specialty):

2. Uses of NHRC Library

    a.   Since when you are using NHRC Library: …………………….....

    b.   On average, how often do you visit NHRC Library?

        i.   Daily   [ ]

        ii.   Once in a Week [ ]

        iii.   Once in a Month [ ]

        iv.   Occasionally [ ]

    c.   For what purpose you visit the NHRC Library? [MCO]

        i.   Use of library print resources [ ]

        ii.   Use of e-resources [ ]

        iii.   Use of both print & e resources [ ]

        iv.   Other purposes [ ], Please specify:
        ………………………………………………

3.   Do you know about Research4Life Programmes/Databases, e. g. Hinari?

i.   Yes   [ ]   ii. No [ ]

4.   Are you using Research4Life Programmes/Databases?

i.   Yes   [ ]   ii. No [ ]

ii.   If 'No', what is the reason?

1.   I don't know about Researh4Life Programmes.

2.   I don't need to use it?

3.   Other, please specify:

…………………………………………………..

iii.   If 'Yes', please answer the questions below

a.   From where you have access to Research4Life databases? [MCO]

i.   NHRC library [ ]

ii.   Affiliated institution library [ ]

iii.   From home [ ]

iv.   From the office [ ]

v.   Other places [ ]

b.   Do you have access to Research4Life databases user name and password?

i.   Yes   [ ]   ii. No [ ]

c.   Which of following Research4Life Programme you are using? Please rate them 1 to 5 in high to low order. 1 for highest use! [MCO]

i.   Hinari   [   ]

ii.   AGORA [   ]

iii.   OARE   [   ]

iv.   ARDI   [   ]

v.   GOALI   [   ]

d. How often do you use Research4Life resources?

    i.   Daily   [ ]

    ii.   Once in a Week [ ]

    iii.   Once or twice in a Month [ ]

    iv.   Occasionally [ ]

    v.   Only if needed [ ]

e. How long you spend your time when you use Research4Life?

    i.   1 hour [ ]

    ii.   2 hours [ ]

    iii.   3 hours [ ]

    iv.   Depends on need basis [ ]

f. For what purpose you use Research4Life databases? Rate your choice from 1 to 3. [MCO]

    i.   Journals [ ]

    ii.   Books [ ]

    iii.   Databases [ ]

    iv.   Reference sources [ ]

    v.   Other [ ]

g. In average how many full text you downloads form Research4Life databases per week?

    i.   Journal articles [   ]

    ii.   Book chapters/sections [   ]

    iii.   If other please specify……………………………

h. Why you are using Research4Life database? [MCO]

    i.   Search authentication of information [ ]

    ii.   Download full text closed access resources [ ]

    iii.   No alternative source available [ ]

    iv.   Better than other sources that I have access [ ]

    v.   Research4Life is easy to use [ ]

i. Which database you use for literature search?

    i. Scopus [ ]

    ii. PubMed [ ]

    iii. Google Scholar [ ]

    iv. Summon Search [ ]

    v. Other (please provide name (max 2)):

       1. ……………………………….   2. ………………………………

j. Name the literature search source that you use most frequently for your research or study?

    i. …………………………………………….

5. Have you got any training or guidance in use of Research4Life database? [MCO]

    a. Participated in a formal training [ ]

    b. Participated in online training [ ]

    c. Guidance from librarian [ ]

    d. Using online tutorials [ ]

    e. None of the above [ ]

6. Do you have your own publications? Please specify numbers.

    a. Research articles…………….

    b. Books………………………

    c. Policy document …………..

    d. Others…………………....

    e. I have no publication [ ]

7. Please rate the contribution of Research4Life Programmes on your research and education work?

    a. Very high [ ]

    b. High [ ]

    c. Medium [ ]

    d. Low [ ]

    e. No any contribution [ ]

8.   Are you using other sources or databases to get full text closed access resources?

        a.   Yes [ ]   b. No [ ]

        i.   If 'Yes', what are they:

            1.   ………………………… 2. ……………………………..

        ii.   Which one you find easier to get full text article:

            1.   Research4Life [ ]   2. Other [ ]

        b.   Are you able to find all your needed contents full text from Research4Life Programmes?

        i.   Yes [ ]   ii. No [ ]

        c.   What content you find missing in Research4Life Programmes?

        i.   Name journal(s):

        ii.   Name book(s):

        iii.   Name publisher(s):

        iv.   Name database:

        d.   What do you think limits the use of Resrach4Life Programmes? [MCO]

        i.   Do not access to Research4Life username and password for home or personal computer? [ ]

        ii.   Need specific computer skills to use? [ ]

        iii.   Search system and access to full text is complex? [ ]

        iv.   Need high speed internet? [ ]

        v.   Adequate tutorials or guidance is not available? [ ]

        e.   What do you need more to use Research4Life databases in much better way?

        i.   Need formal trainings [ ]

        ii.   Publicity materials [ ]

        iii.   Online tutorials [ ]

        iv.   Other, please specify: ………………………….

f. What additional support do you expect from the NHRC library in terms of Research4Life uses?

  i. ……………………………………………………………

g. What improvements you would like to see in Research4Life Programmes?

  i. ……………………………………………………………..

  ii. ……………………………………………………………..

  iii. ……………………………………………………………..

9. Suggest any other improvements if you think for Research4Life Programmes?

  ………………………………………………………………………………………
  ………………………………………………………………………………………
  ………………

Thank you very much for your kind support.

ANNEX-II INTUITIONAL PROFILE

NHRC Library

Introduction

This study focuses on the uses and impact of Research4life resources on NHRC Library users. The Nepal Health Research Council (NHRC) is a national apical body responsible for providing scientific study and quality health research in the country with the highest level of ethical standards. NHRC was established in 1991 to fulfil its main objective of bringing about improvement in the health status of the people of Nepal (NHRC, 2019). NHRC has been focusing on research regulation, promotion of research activities, evidence generation including translation into policy and practice, capacity building, conducting research projects, and providing health research grants. NHRC library established along with the NHRC in 1991, is an important unit of the NHRC which has been providing research-based health information to health scholars and policymakers to fulfil the objectives of the NHRC. NHRC 143rd executive board meeting was decided to replace the name of NHRC Library to Dr Mrigendra Raj Pandey Library dated 07-01-2066-01-07 (20-04-2009) for his boundless contribution and the emeritus chairman of NHRC was nominated by the Government of Nepal as chairperson on 10-01-2048 (29-04-1991) (Yadav, 2018). NHRC library has been continuously supporting the mission of the NHRC by fulfilling information need of the health researchers and policymaker in the country. This is a special library situated in the main building of the NHRC central office in Ramsah Path, Kathmandu, Nepal. It is meant for the higher-level research and policy library in the health discipline. The library is open to all health and related professionals involved in research activities, policymaking, education, teaching, and scientific activities. The NHRC library servers as a repository for health research-related information resources. The library acquires different kinds of information resources in the health discipline, which consists of research-based books/tapes/documents, journals, reports, theses, CD-ROMs, databases and is actively networking with other health research libraries in the world. Research4Life

Programmes is one of the major sources of access to online scientific publications, basically peer-reviewed scientific journals, books and information discovery databases, reference resources. NHRC Library also promotes and encourage the use of Research4Life Programmes, PubMed database, WHO library and other online resources. The library provides free Internet service with desktop computers to search and download online information resources.

Objectives of NHRC Library

The main objective of the NHRC Library is to support health research and training in Nepal. The other general objectives are:

- To provide health-related research and information to all health and professionals involved in research activities,

- To provide that information through e-mail, both nationally and internationally,

- To fulfil the gaps of research-based information in the country,

- To provide information based research materials (either in conventional or in e-formats) to the health and related professionals,

- To promote resource sharing, networking and exchange of databases,

- To document the health-related research-based information properly in the electronic version, and

- To bring out various publication.

Functions of NHRC Library

Major functions of the NHRCL are:

➢ Select, collect, manage, organize, disseminate, distribute and archive health information resources according to need of health research scholar;
- Work as an integral part of the NHRC;

- To work as a leading health research library;
- To make available online information resources;
- To provide training on access to online information resources and search techniques; and
- To bring out various publications.

Collections of NHRC Library

The library collects various health-related information resources in different forms and formats. The collections are focused on the requirements of its users. The library has over 3000 print collections which consist of books, research reports, thesis & dissertations, NHRC publications, WHO publications, DHS Annual Reports, Sight and Life publications, Global Health, International Family Planning documents, Nepalese health literature, Profile of health research projects in Nepal 2000-2007 and other health-related print and digital information materials. The library focuses more on access to online information resources. Research4Life is one of its main focused collection and access.

Users of NHRC Library

NHRC library is open for all. As the NHRCL is intended for high-level health scholars, the users of the NHRC library are health researchers, students, doctors. Broadly HNRCL users are NHRC library are staff, health science researchers, health authorities and senior students, NHRC Executive members, NHRC Ethical Review Board (ERB) members, NHRC staffs, PhD students, MPH students, senior researchers, young researchers, medical doctors, institutional researchers, nursing students, staff nurses, dissertations students from different colleges from valley & outside the valley & medical science students from different parts of Nepal, and so on.

Services of NHRC Library

Following are the main services offered by the NHRC library

- Reference services with a focus on current awareness services

- Specialist services:
    - Computerized retrieval service
    - Internet services
    - Online catalogue
    - Institutional repository
    - Online database search and access
- Xerox and printing services
- Library training and guidance
- Online catalogue search
- Institutional repository

Access to Research4Life Programmes in NHRCL [keep this content]

NHRC library is an active member of the Research4Life Programme not only in access but also in the promotion to it. It has access to Hinari since the very beginning of its launch, which is since February 2002. Then it gained access to OARE in September 2007, AGORA in October 2007. It also gained access to ARDI and GOALI as the policy of Research4Life Programmes access changed from separate user names and password to a single username and password. NHRC library also promotes and encourage the use of the PubMed database, WHO library and other online resources. It provides all kind of support and reference service to its users. Besides all other services, the NHRC library has taken facilitating access and use of Research4life resources to its uses as a major service of the library. NHRC library promotes the use of Research4life resources to its users through formal and informal training, on the spot guidance and providing readily available computers with an Internet connection.

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