Journal of Sri Lanka Library Review, Volumeme 37, Issue I1, June 2023, [37-53]
DOI: https://doi.org/10.4038/sllr.v37i2.63

Utilization of Online Resources by the Undergraduates at the Institute of Indigenous Medicine: An Online User Survey

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Abstract

The COVID-19 pandemic has fundamentally altered how medical knowledge is transmitted and learned. Due to the virus, universities in Sri Lanka had to close in 2019, which compelled all educational systems to switch to online learning. Both lecturers and undergraduates completed their required curriculum using online resources. There may be another wave of sickness or another tragedy in the future. Also, the pandemic threat is not yet finished. Additionally, in this age, utilizing online resources has become crucial. This study was conducted to identify how undergraduates at the Institute of Indigenous Medicine (IIM), University of Colombo, use online resources for their studies. A survey research design with a random sample technique was used for this purpose. 600 students make up the sample, of whom 100 were randomly chosen from each level, representing the first through final years. Data collection took performed within a month using questionnaires as a tool for data collection. The data were analyzed using descriptive statistical techniques. The study findings showed that the Covid - 19 pandemic caused 57% of undergraduates to switch to internet resources. 32% of undergraduate students turned to online resources due to fuel issues and power cuts. Online materials were accessed from homes by 91% of undergraduates. The majority of them (95%) used mobile devices to access internet resources. For their coursework, 66% of undergraduates accessed online resources. The most popular online resource for completing their information needs was the OPAC of the IIM library. 56% of those surveyed use online resources.

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Received: 20/04/2023, Accepted revised version : 23/06/2023

The main issue, according to the respondents, was the power cuts when using internet resources. 23% of undergraduates agreed that they lacked the necessary understanding while 54% struggled to locate pertinent information on online sites. Accordingly, the study recommended that the institute improve undergraduate students' ICT skills, build the necessary infrastructure and provide technical support and training programs so that students can access online resources and benefit to the fullest from their education. The advantages and benefits of using online resources should be discussed with students interactively to uplift the Indigenous Medicine field.

Keywords: Online Resources: Undergraduates: Information Resources: Medicine: IIM

Introduction

The Institute of Indigenous Medicine was first established as the College of Indigenous Medicine (Swadeshiya Vaidya Vidyalaya) and subsequently upgraded and affiliated with the University of Colombo in 1977 as the Institute of Indigenous Medicine. It engenders both Ayurveda and Unani medical professionals to meet the challenging needs of health care problems according to Ayurveda, Unani, and Indigenous medical systems. The Institute admits G.C.E. (A/L) students in the biological science stream who conform to the criteria recommended by the University Grant Commission for admission to the university. Thus, the Institute of Indigenous Medicine offers two-degree programs under the Department of Study in Ayurveda and the Department of Study in Unani. Both the Bachelor of Ayurveda Medicine and Surgery (BAMS) and Bachelor of Unani Medicine and Surgery (BUMS) programs are spread over six years, including five years of academic studies and a one-year internship.

Online resources have emerged as one of the primary sources of information for teaching, learning activities, and research. Although the present era is mainly dependent on online resources, students do not have sufficient knowledge to handle those resources (Lavanya & Santharooban, 2018). Users often prefer incremented access to databases of online refereed journals and to the web, which provides up-to-the-minute information, international in scope, and sometimes not available elsewhere (Renwick, 2005). The competency to utilize online resources efficiently depends on rudimental computer skills, knowledge of what is available and how to use it, and the ability to define a research problem. The availability of e-resources has tended to encourage the use of only what is easily accessible. Access to e-resources has decreased the time spent searching for information (Renwick, 2005).

In a short period, medical educators had to acclimate and innovate, designing online learning experiences to substitute for lost hours that would have been spent in the classroom, laboratory, or patient bedside.

The introduction of the latest technologies, including laptops, smartphones, tabs, and fast internet speed, has revolutionized the lives of individuals

worldwide (Alabdulwahhab et al., 2021). The use of technology in education had already been in practice in developed countries around a decade ago, yet its acceptance by educators was lagging behind that of learners (Alabdulwahhab et al., 2021).

The introduction of social media like Facebook, Twitter, Instagram, etc. has brought the world into the grasp of a minuscule smart phone. Digital information will facilitate student's access to information regardless of time and space. As a consequence, the magnification of research literature is exponential, and dissemination of this literature is increasingly done through the world wide web. It becomes vital for these students to have access to the latest research information to strengthen their knowledge base. But at the same time, searching for and accessing information through digital media has become a complex issue (Wijetunga & Peiris, 2017). In general, online resources are open to all and freely available. The users can download, utilize, and apportion the required information for their research purposes.

The Corona Virus disease pandemic forced undergraduates at the Institute of Indigenous Medicine to stop face-to-face learning activities and shift to online teaching, learning, and examining. This viral disease pandemic disrupted undergraduates worldwide. Undergraduates had to suspend classroom teaching and remove students from their clinical placements. It became obligatory for medical institutes to pivot to online learning, also called e-learning, web-based learning, or Internet-based learning. The COVID-19 pandemic is completely not over, or the future may be another wave, and the Institute may be closed due to the worst economic crisis. So, this study aims to identify the utilization of online resources for their studies and the problems faced by undergraduates at the Institute of Indigenous Medicine.

This study will assist the administrative staff in creating the facilities needed to access IIM's online resources. Academics in particular can pinpoint undergraduates' use of internet resources and the issues they encounter. Academics can inform students about databases, electronic journals, electronic books, and other online resources relevant to the study of Ayurveda and Unani. Also, the library of the IIM will be able to conduct a user awareness program for undergraduates at the IIM.

Objectives

The main objective is to examine the utilization of online resources by undergraduates at the Institute of Indigenous Medicine for their studies.

Specific Objectives are,

- To ascertain the reasons for the utilization of online resources.
- To explore the preferred online resources utilized by the undergraduates.
- To ascertain the problems faced by undergraduates when utilizing online resources, it is important to understand their needs and howthese resources can be used most effectively.

Literature Review

A review of the literature covers a select number of studies on the usage of online resources carried out during the 2011–2021 periods in international content, with special emphasis on medical students.

Bala and Bansal (2018) conducted a study to awareness of open-access resources among researchers at Punjab Agriculture University, Ludhiana. Research articles, theses, and e-books are some of the most commonly used open-access materials for coursework and research. According to the findings of the study, which also highlighted the lack of funding in libraries to purchase and subscribe to library resources. They also recommended that the researchers receive technical training so they can make better use of open-access resources and manage enormous amounts of data.

Zhou et al. (2020) surveyed internet access, usage, and trust among medical professionals in China. They discovered that new media has become a major outlet used by medical professionals in China to access various types of information. Even so, they still trusted traditional media and professional journals more. Differing from the doctors described in Western studies, where medical professionals are mainly integrating new media into their process of making better clinical decisions.

Alabdul wahhab et al. (2021) in their study of the use of online resources by undergraduate medical students at the College of Medicine, Majmaah University, Saudi Arabia. They concluded that the majority of students shifted to online educational resources for learning purposes, and Google and

YouTube remained the primary sources for probing online learning resources. Despite the majority of the students' contentment with the online educational resources, a bulk of students were neither vigilant of the free online e-resources offered by the university.

Shylendra et al. (2020) investigated the use of electronic information resources by postgraduate students of JSS AHER Constituent College, and the results revealed that the majority of students (94%) were using digital resources for writing the article, and research for their academic purposes. It was a great opportunity and resource for the student's exams and research projects. They found that 50% of the student population finds using the library catalogue difficult.

When Covid-19 was in effect, Baticulon et al. (2021) surveyed the obstacles to online learning. Barriers were broken down into five categories in a national survey of Philippine medical students: institutional, communal, home, individual, and technical. Only 11505 pupils (41%) were deemed cognitively and physically fit for online study. The outcome demonstrated that having quick and dependable internet access was of greater importance than having a device or being technically skilled.

In the Sri Lankan context, studies on the usage of online resources are few. A study by Lavanya and Santharooban (2018) revealed that students in the faculty of Agriculture Science, at Eastern University, were using the internet conventionally for educational and entertainment purposes. A majority of students were unaware of the online databases provided by the UGC and university-subscribed online resources. Also pointed out the barriers to accessing online resources, namely slow internet connectivity, the inability to line, lack of awareness, viruses, and other malware pop-ups. It was recommended that a well-planned information literacy program be introduced for all students regardless of their academic year, to access information efficiently.

In the research conducted by Wijetunga and Peiris (2017) regarding final-year students' choices for digital information resources and the criteria used for evaluation 89% of engineering students who are undergraduates reported using search engines as their primary information source. It was noted by

62% of engineering students that they had not received any formal instruction in finding or evaluating digital resources, and they stated that instruction in using the library and online resources would be beneficial.

In a different study, Premarathne (2017) examined how arts undergraduates used computerized information sources to prepare their final-year dissertations. According to a study done at the University of Peradeniya, students prefer using internet search engines over full-text and specialized databases when looking for information. 75% of undergraduate students use the internet to find dissertation and assignment preparation information. They haven't grown accustomed to the library website. The main issues with using electronic resources were a lack of proficiency in information searching, a dearth of training opportunities, and inadequate access to the Internet.

According to Jayalanthan and Jeyaraj (2019) some aspects of postgraduate students' behaviors when using the library's electronic information resources showed that students were well aware of electronic information sources and keen to use them for academic duties. Furthermore, crucial to students' behavioral intention to use electronic information resources in the library are the facilitating circumstances and effort expectations.

Gunasekera et al. (2021) Study of e-resources usage by undergraduate students at the University of Peradeniya, recommended that the library should regularly organize training about e-resources and open-access journals, facilities should be provided to access open-access journals through the library website, and library should update faculty members regarding the available e-resources. According to the literature, few studies have examined undergraduates' online usage in universities in Sri Lanka. However, there hasn't been any investigation into how undergraduates studying indigenous medicine use online resources. This study will fill a gap in the literature, especially in the field of indigenous medicine.

Methodology

The primary investigator drafted the survey instruments. An online questionnaire was shared with the study population. The target population was the undergraduate from Ayurveda and Unani at the Institute of

Indigenous Medicine. The sample size was 600. From the first year to the final year, 50 students from each of the Ayurveda and Unani departments have been randomly selected 100 students for the sample. There were two batches in the first year at the IIM (2019/2020 and 2020/2021). Hence, the most recent first-year students were named as first professionals (2020/2021 academic year). In one month, all of the data had been collected. 41 Undergraduates have not submitted their responses. Hence, only 559 responses were deemed pertinent to continue the study. A descriptive statistical method was used to analyze the data.

Result & Discussions

A total of 559 students from the Institute of Indigenous Medicine participated in this study and therefore the response rate was 93%. Among them, 280 were Ayurveda students and 279 were Unani students.

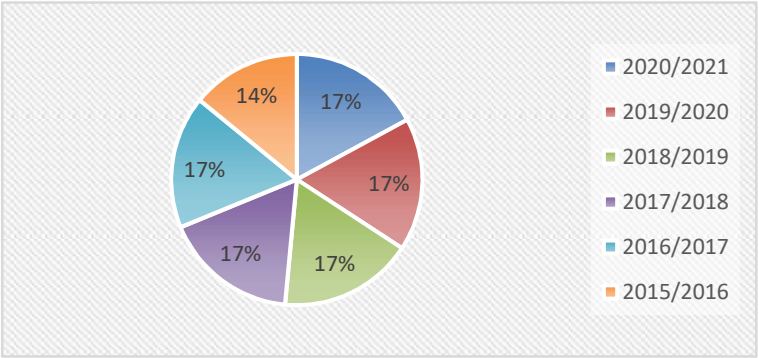

Figure 1: Academic Year-Wise Distribution

Also, a distribution of the students by academic year revealed that 17% of them came from first-year students (2019/2020) and first professional students (2020/2021), 17% from second-year students (2018/2019), 17% from third-year students (2017/2018), and 17% from fourth-year students (2016/2017). Students in their last year had the lowest response rate (14%). The first year contains two batches. The most recent first-year students have been referred to as first professionals (2020/2021).

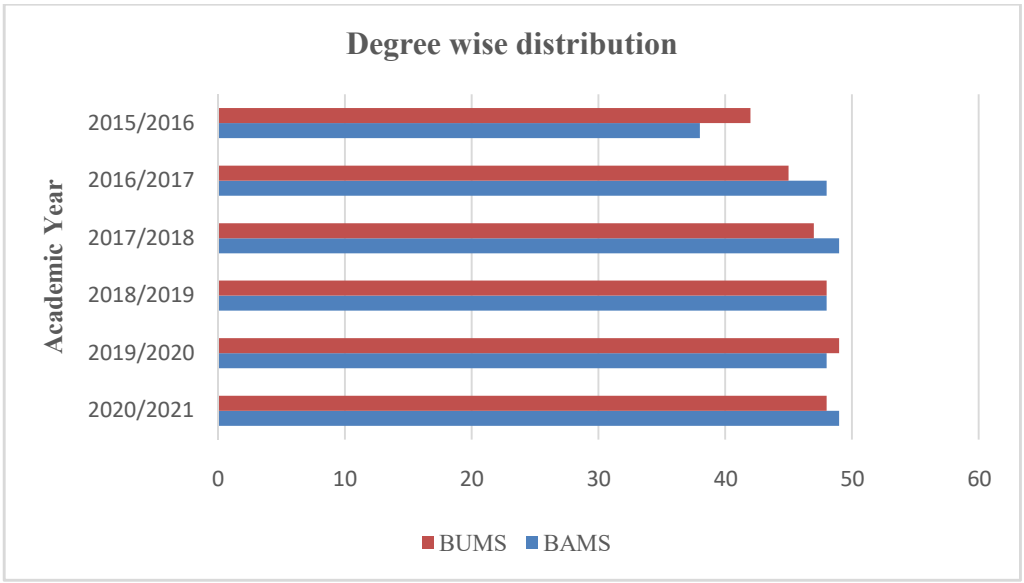

Figure 2: Degree Wise Distribution.

The Institute of Indigenous Medicine offers two-degree programs under the Department of Study in Ayurveda (BAMS) and the Department of Study in Unani (BUMS). The survey sample consists of 50 students in each section (Ayurveda and Unani) representing 100 at each level. Figure 2 shows that most of the respondents from the 2017/2018 Academic year belonged to the BAMS and the 2019/2020 Academic year belonged to the BUMS. The lowest number of respondents from the 2015/2016 Academic year belonged to the BAMS.

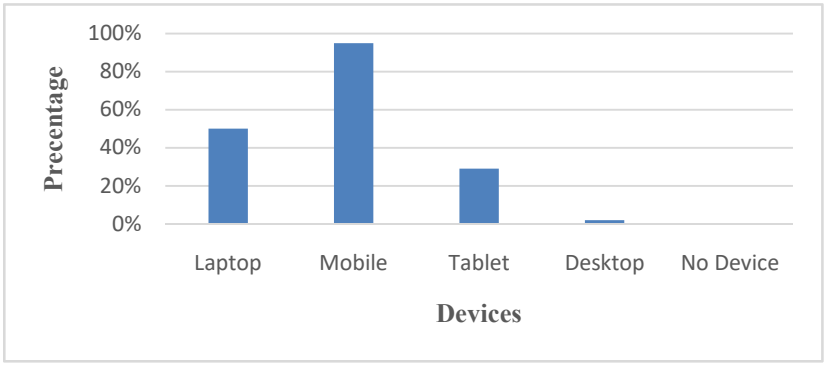

Figure 3: Using devices for consulting online resources

Students were prompted to indicate how they use internet tools. The majority of students (95%) indicated in their marked responses that they had mobile

devices. 50% of students have accessed online resources using laptops. Tablets were used by 29% of students to access online resources. Few pupils (2% of them) have access via a desktop. These findings showed that everyone has mobile devices, laptops, computers, or other internet-connected devices for using online resources.

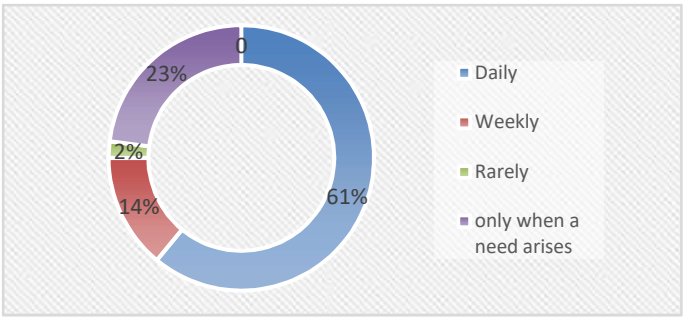

Figure 4: Frequency of Access

This survey revealed that the majority of students (61%) access online resources (61%) daily, even though 23% of respondents access online resources only when a need arises, only 2% of them access online resources rarely, and 14% access them every week. As an undergraduate at IIM, it is a good habit to use it daily for their information requirements.

This research was planned to get a self-assessment of the computer skills of undergraduates. So, students were asked to mark their computer knowledge. Figure 5 shows a clear picture of the information and computer technology (ICT) knowledge of the students. It was revealed that more than 77% of the students had average knowledge, and 14 % of students had high knowledge of accessing online resources. And only 9% of students had poor ICT knowledge.

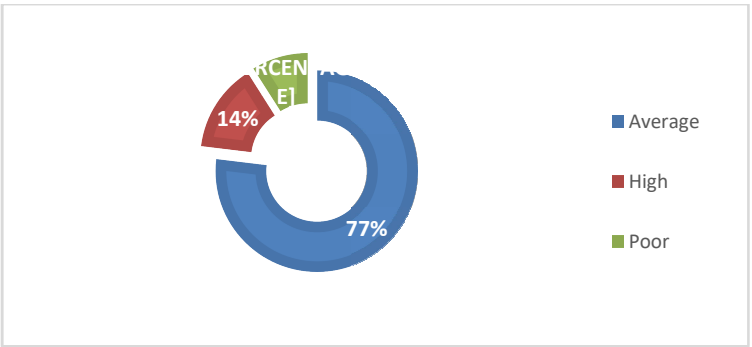

Figure 5: Knowledge of Computer Usage

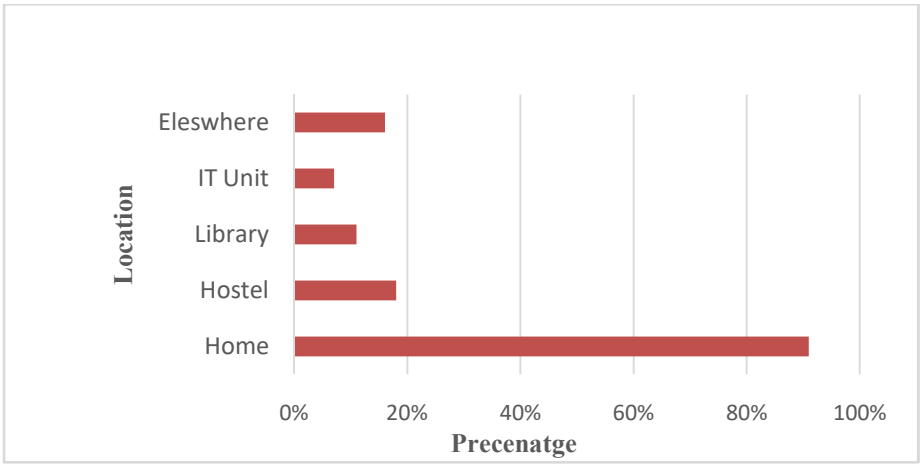

Figure 6: Location of Accessing

Figure 6 depicts the location of use of online resources by undergraduates at home (91%). Due to the pandemic period, teaching methods were transferred to online teaching, and students had more time at home. 18% of students used the hostel to access online resources. 11% of students used the library to access them, and in the IT unit, 7% some students accessed online resources from several locations. However, the majority of students used online resources in their homes due to the pandemic.

The majority of students encountered a lot of difficulties while studying between the years 2019 and 2022. The biggest challenges they encountered during that time included power cuts, gasoline shortages, institutes being closed due to the COVID-19 pandemic, and economic crises.

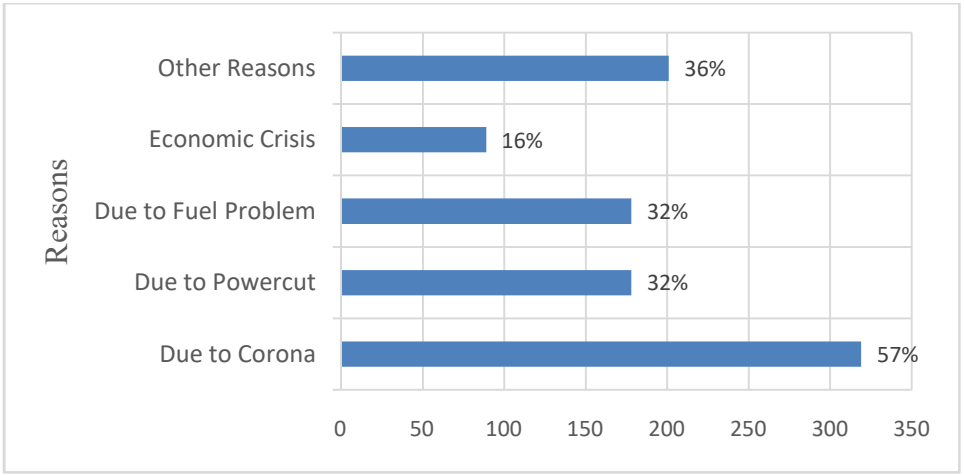

Figure 7: Reasons for the Shift to the Online Resources

Students at the Institute of Indigenous showed that the Corona pandemic caused the majority of them to switch to Internet materials (57%). Similar numbers of students (32% each) cited power outages and fuel issues as the causes for using online resources. The economic crisis was cited by 16% of students as the reason they used online resources.

Figure 8: Purpose of Use of Online Resources

The result of Figure 8 indicates that online resources are widely used by students for coursework 66%, 41% of students used them to update their knowledge, 34% used them for research work, and according to the instruction given by their teachers, 36% of students were likely to access group study. Further, 29% of respondents mentioned that they used them for their free time reading. Some students used to watch and download videos (55%). The lowest usage was library material (30%), 34% of students used online resources to retrieve diagrams and images, and the rest of the students accessed them for other purposes.

Regarding the reasons for using online resources, the majority of students used online resources for coursework and, secondly, to watch and download videos. The use of online resources for research work, as instructed by teachers, and retrieving diagrams and images had similar percentages. It can be developed for research purposes.

Table 1: Descriptive Statistics of Preferred Online Resources.

Online Resources	1	2	3	4	5	6	7	8	9	10
Search Engine (google, yahoo, Altavista, etc)	89 (16%)	27(5%)	39 (7%)	27 (5%)	50 (9%)	11 (2%)	11 (2%)	50 (9%)	39 (7%)	216 (39%)
Social networking sites (Facebook, Twitter, etc.)	78 (14%)	125 (22%)	58 (10%)	50 (9%)	39 (7%)	27 (5%)	27 (5%)	89 (16%)	27 (5%)	39 (7%)
OPAC	166 (30%)	58 (10%)	39 (7%)	89 (16%)	78 (14%)	1 (0.17%)	0	39 (7%)	50 (9%)	39 (7%)
Databases	128 (23%)	91 (16%)	58 (10%)	39 (7%)	50 (9%)	27 (5%)	27 (5%)	50 (9%)	50 (9%)	39 (7%)
E-Journals	122 (22%)	58 (10%)	89 (16%)	11 (2%)	78 (14%)	50 (9%)	27 (27%)	58 (10%)	27 (5%)	39 (7%)
E-books	84 (15%)	39(7%)	50 (9%)	50 (9%)	58 (10%)	58 (10%)	39 (7%)	39 (7%)	84 (15%)	58 (10%)
E-mail	50 (9%)	58 (10%)	122 (22%)	58 (10%)	39 (7%)	11 (2%)	58 (10%)	27 (5%)	58 (10%)	78 (14%)
YouTube	39 (7%)	50 (9%)	78 (14%)	27 (5%)	27 (5%)	39 (7%)	39 (7%)	78 (14%)	58 (10%)	124 (22%)
google scholar	135 (24%)	50(9%)	39 (7%)	27 (5%)	39 (7%)	11 (2%)	58 (10%)	50 (9%)	58 (10%)	89 (16%)

The preferences of the students for their information needs are shown in Table 1. The respondents were asked to rank their online information sources on a scale of 1 to 10, with 1 being their first choice. The majority of respondents said that they prefer using the OPAC 30% (n=166), Google Scholar 24% (n=135), databases 23% (n=128), electronic journals 22% (n=122), and 7% (n=39) of the lower percentage of students prefer to use YouTube. Nonetheless, 7% of the respondents stated that using social networks, OPAC, databases, and e-journals to access online resources was their least preferred method (last option = 10). E-books were ranked at 10% (n=58) and email at 14% (n=78) of lesser preferences. Google Scholar and YouTube were the respondents' last choices, according to 16% (n=89) and 22% (n=124), respectively. Last but not least, 39% (n=216) of respondents showed that their last choice was the search engine.

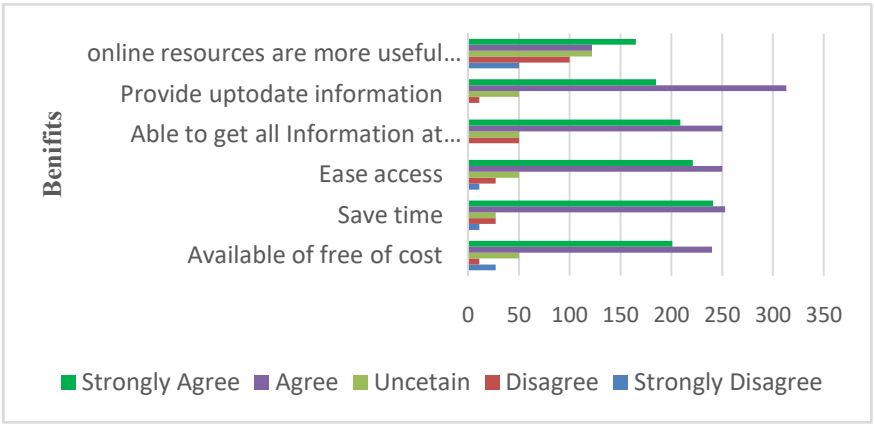

Figure 9: Benefits of Using Online Resources

Figure 09 depicts that most of the respondents used online resources because they are providing UpTodate information (56%). About 45% of used online resources because it saves time for users. Similarity percentage of respondents used online resources because they were available to get all information in one place and had easy access. Online materials are more valuable than paper ones, according to 22% of undergraduates who agreed, and 30% of them strongly agreed. Charaka Samhitha, Susrutha Samhitha, and Ashtaga Haradaya are the most important textbooks on Ayurveda subjects. Also, Ayurveda students depend on basically traditional textbooks for their learning requirements. But it was revealed that students understood and believed in the usefulness of online resources. Moreover, print copies received 18% fewer unfavorable reactions than online alternatives.

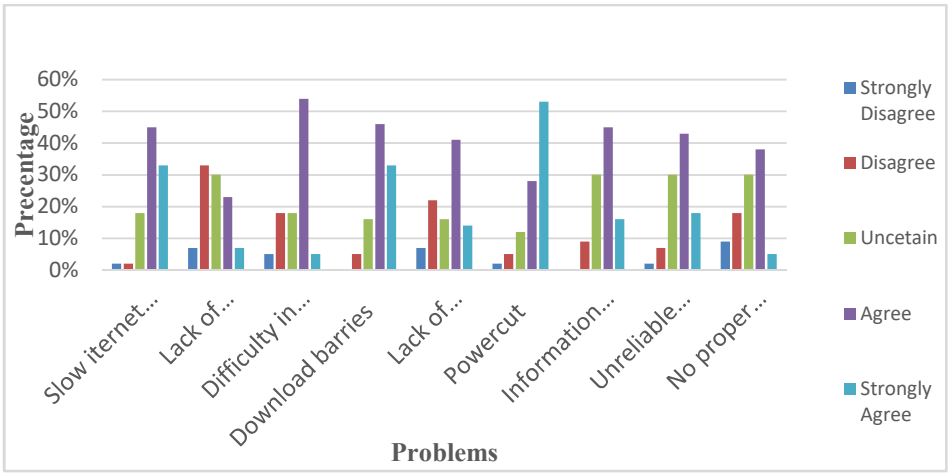

Figure 10: Faced Problems.

09 categories were used to group the barriers. Power cuts were the most common impediment to accessing internet resources (53%). The difficulty in locating pertinent information was cited by 54% of respondents as one of the main obstacles to accessing Internet resources. Other frequent problems for searching information resources (45%) included slow internet connectivity and information overload online. According to the study, 33% of students highly agreed and 46% agreed that the difficulty in accessing online materials was the cause of the download barrier. They refuse to admit that they lack the technical abilities necessary to access internet resources, even though these skills are one of the most important requirements.

Conclusion

This study clarified how Institute of Indigenous Medicine undergraduates used online materials. The majority of students (66%) used online resources for courses, and 57% cited COVID-19 as the reason for their switch. Additionally, 54% of students reported having trouble using internet resources. The biggest issue for IIM undergraduates was a lack of adequate training. Less than 30% of students have used online library resources. So, the library has a main role in enhancing the knowledge of online resources among undergraduates at IIM. The library should organize seminars and workshops to develop knowledge of online resources. Additionally, undergraduates should receive technical training to maximize the benefits of online access resources and manage the abundance of information. This study was limited to identifying the online resource usage of undergraduates at the IIM. Furthermore, this study can be expanded to include institutions and universities that have students studying indigenous medicine. Thereby, it will help to uplift the indigenous medicine field and research areas in Sri Lanka.

Recommendations

This will help the administration and academics of the IIM to uplift the use of online resources by the undergraduates in the IIM for their education requirements. The administrators and academics should identify relevant online sources for Ayurveda and Unani undergraduates and motivate them to use the online resources. Further, how to avoid the difficulties and

advantages of online resources should be demonstrated and promoted to the students interactively. The institute needs to improve the ICT skills of undergraduates, develop the infrastructure, and provide technical support and training programs for students to access online resource

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