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ACCEPTANCE AND USE OF ELECTRONIC INFORMATION RESOURCES BY STUDENTS OF HEALTH SCIENCES: A STUDY OF KHYBER PAKHTUNKHWA INSTITUTE OF MEDICAL SCIENCES (KPIMS)

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Abstract
The study inspected the use and acceptance of Electronic Information Resources (EIR) among students at the Khyber Pakhtunkhwa Institute of Medical Sciences (KPIMS). The study used a quantitative research approach. The data collection instrument was a structured questionnaire refined from validated tools. The population consisted of 680 medical science students, from which a random sample of 246 was selected. The researcher distributed 260 questionnaires amongst students and received 218 questionnaires from respondents and response rate was analyzed 84%. The descriptive statistics addressed awareness, usage, and challenges, while inferential statistics (ANOVA and t-tests) analyzed demographic variations. The results showed most students were skilled in EIR use, primarily for research, often accessing resources via Android phones from hostels. Key challenges included unreliable electricity and low satisfaction, prompting recommendations for improved infrastructure and support systems.

INTRODUCTION

With the development of Information and Communication Technology (ICT), Electronic Information Resources (EIR) have been created widely and wildly used, bring the revolution in research in the medical field. This transformation has had a significant impact on the way information is stored, retrieved and distributed, which is also reflected in the apparent transition in medical libraries from print to digital formats of scientific content. EIR encompasses a diverse array of online-accessible resources, including databases, journals, books, theses, and websites. This offers improved accessibility, efficiency, and cost-effectiveness, thereby transforming scholarly communication.

Students and researchers are now armed with the skills needed to interact with contemporary information systems, thanks to digital technologies. Although earlier research indicates that students are highly aware of EIR, the substantial investments by medical institutions in automating library services show that these resources are becoming increasingly important for academic purposes.

This study investigates the adoption of Electronic Information Resources (EIR) among health sciences students, with a specific focus on those enrolled at the Khyber Pakhtunkhwa Institute of Medical Sciences (KPIMS) in Pakistan. It highlights the transformative role of Information and Communication Technology (ICT) in the shift from traditional print-based resources to digital formats within the medical field. The study emphasizes the growing reliance on EIR to enhance research efficiency, accessibility, and cost-effectiveness, aligning with global trends in higher education. It provides an overview of the historical development of digitization within Pakistani libraries and outlines various forms of digital content, including websites, databases, journals, e-books, and theses. The importance of information literacy is stressed as a critical skill for effectively navigating and utilizing these electronic tools. Empirical evidence from medical institutions indicates a student preference for electronic over print resources, though challenges such as poor internet connectivity and limited digital skills persist.

The study proposes strategies to improve EIR usage, including collaborative academic projects and enhanced computer literacy training. Despite evident benefits, the effectiveness of EIR integration in Pakistan remains inconsistent, underscoring the need for further empirical research to understand usage patterns and barriers. Ultimately, the study aims to guide institutional policy, support digital literacy development, and contribute to scholarly discourse on EIR adoption in health sciences education.

Library automation efforts in Pakistan began in the 1980s, with initiatives such as the Netherlands Library Development Project (NLDP) playing a crucial role in establishing digitization. Institutions of higher education, such as the Khyber Pakhtunkhwa Institute of Medical Sciences (KPIMS), which was founded in 2009, have incorporated EIR into their academic frameworks. With its state-of-the-art computer lab and digital amenities, KPIMS provides a variety of allied health programs that necessitate effective access to electronic resources. Digital materials such as e-books, e-journals, databases, and multimedia content are known as Electronic Information Resources (EIRs), and they can be accessed through electronic devices and networks. EIRs, typically available in PDF and HTML formats, enhance academic and research efficiency by improving access, usability, and cost-effectiveness. With the rise of digitization and advancements in ICT, their significance has increased.

Studies show varying levels of awareness and use among students. While many students use EIRs for academic purposes, familiarity with specific platforms remains limited. Barriers such as low digital literacy, poor internet connectivity, inadequate infrastructure, and lack of training hinder effective use. Despite high awareness in some cases, actual utilization can be low.

1.3 Statement of the Problem

Research on the use of Electronic Information Resources (EIRs) by medical students in Pakistan has produced inconsistent results, highlighting a gap in comprehension regarding their adoption, effectiveness, and challenges. The majority of current studies do not provide insight into student attitudes, usage patterns, and influencing factors. Additionally, they are primarily based on research conducted in developed countries, which diminishes their relevance to the context of Pakistan. The present study aims to investigate the awareness, barriers, motivations, and demographic influences on EIR usage among undergraduate students at KPIMS in order to tackle this issue. Its aim is to offer localized insights that can inform policy and enhance the digital learning infrastructure within the realm of medical education in Pakistan.

1.4 Research Objectives

1. To examine the use of EIRs among the students at the Khyber Pakhtunkhwa Institute of Medical Science (KPMIS).

2. To identify the challenges faced by the students in the use of EIRs at the KPMIS.
3. To explore the significance of differences in knowledge and use of EIRs based on the selected demographic attributes of students at KPMIS.

1.5 Research Questions

The following are the main research questions base on objectives.

1. What is the use of EIRs among the students at the KPMIS?
2. What are the challenges faced by the students in the use of EIRs at the KPMIS?
3. What is the significance of differences in knowledge and use of EIRs based on the selected demographic attributes of students at the KPMIS?

1.6 Significance of the Research Study

This research examines how students at KPMIS adopt and use Electronic Information Resources (EIRs), emphasizing their impact on academic performance, research skills, and digital literacy. The study seeks to shed light on enhancements in medical education through the incorporation of EIRs into pedagogical and learning methodologies, steering evidence-informed financial choices by institutional authorities, and tackling inequalities in digital literacy via specialized training initiatives. Moreover, the research adds to scholarly literature by providing region-specific insights that reflect contextual factors influencing EIR usage. Its results affect policy development, resource distribution, and curriculum design, aiding in the establishment of more effective and inclusive educational environments. Moreover, the research sets a standard for assessing EIR integration across time, aiding in the ongoing enhancement of educational strategies and fostering. Moreover, the research sets a standard for assessing EIR integration as time progresses, which aids in the ongoing enhancement of educational approaches and fosters lasting student involvement and access to information.

1.7 Supporting Theories

Three theoretical frameworks that correspond to its research objectives regarding the adoption and use of Electronic Information Resources (EIRs) among students at the Khyber Pakhtunkhwa Institute of Medical Sciences (KPMIS) support this study. First, the Diffusion of Innovations (DOI) theory (Rogers et al., 2014) aids in examining students' familiarity with and usage patterns of EIRs by classifying users as innovators, early adopters, early majority, late majority, and laggards. DOI takes into account factors such as innovation characteristics, communication channels, social systems, and user traits, offering a comprehensive perspective for understanding technology adoption behavior. Secondly, the Technology Acceptance Model (TAM) (Davis, 1989) is especially pertinent to the third objective, which investigates obstacles to EIR adoption. TAM stresses that perceived usefulness and ease of use are crucial factors in user acceptance, providing insights into the cognitive and behavioral challenges students encounter. Thirdly, the Social Network Theory (SNT); The fourth objective of the study investigates the impact of demographic differences on EIR usage and awareness (Liu et al., 2017). The Social Network Theory emphasizes the influence of interpersonal relationships, information flow, and network structures on behavior, thus elucidating how social interactions impact the diffusion of EIRs. These theories, when combined, offer a strong conceptual basis for examining the psychological, social, and technological elements that affect EIR adoption within the academic context of KPMIS.

2.1 Literature Review

Academic libraries play an essential role within educational institutions by supporting teaching, learning, and research through the provision of relevant, current, and comprehensive information resources. They are designed to align with and enhance the objectives of their parent institutions by facilitating access to materials necessary for curriculum support and scholarly inquiry (Onwudinjo, 2018; Abubakar, 2019; Singh & Arora, 2018). As knowledge hubs, academic libraries curate collections that meet the specific information needs of academic programs and provide users with

access to electronic resources such as e-books, e-journals, and databases. In addition to resource provision, they offer instructional support, including training in information and digital literacy, subject-specific guidance, and the use of online learning tools (Barbara, 2019). Academic libraries also play a critical role in fostering research competencies by helping students develop information literacy skills necessary for locating, evaluating, and utilizing credible sources (Hart & Kleinveldt, 2017). They guide students in applying diverse research methods and tools, enabling them to engage with information in multiple formats and critically assess evidence to support their academic work (Rasul & Singh, 2018).

2.2 The Role and Impact of Electronic Resources in Academic Libraries

Electronic resources (e-resources) are broadly defined as digital information objects, including full-text documents, datasets, audio-visual materials, and bibliographic records, that require computer-based technology for access and use (AACR-2, 2005; Kaur & Verma, 2009). Driven by advancements in information and communication technologies, their integration has fundamentally transformed academic libraries by enhancing the accessibility, scope, and efficiency of scholarly information (Tahir & Shafique, 2010). Key advantages include remote availability, full-text searchability, hyperlinked navigation, and the mitigation of physical space constraints, making them a sustainable and cost-effective component of library collections (Tekale, 2016).

The scholarly adoption of e-resources, which encompass e-journals, e-books, databases, and e-theses (Israel & Nsibirwa, 2018), has reshaped academic practices. They provide students and researchers with convenient, continuous access to current information, thereby enhancing research productivity, collaboration, and engagement across all disciplines (Quadri, Adetimirin, & Idowu, 2019; Ani & Ahiauzu, 2008). E-journals, in particular, have become indispensable to scholarly communication, maintaining academic rigor through peer review while offering the benefits of digital dissemination, such as rapid availability and multiple access formats (Lu et al., 2023; Wagay & Dutta, 2023).

Access to these resources is primarily facilitated through two key systems: online databases and institutional repositories. Online databases, whether subscription-based or open-access, serve as curated disciplinary repositories that provide extensive coverage of scholarly literature (Sulle & Wema, 2023; Oseghale, 2023). The open-access movement has been pivotal in removing financial barriers and promoting equitable access to knowledge (McGonigle & Mastrian, 2024). Concurrently, Institutional Repositories (IRs) collect, preserve, and disseminate an institution's own intellectual output, such as theses, articles, and research data, thereby increasing its global visibility and upholding open-access principles (Oladokun & Bakare, 2024; Masawe et al., 2024).

Finally, the Online Public Access Catalog (OPAC) remains a critical infrastructure for resource discovery. As a digital bibliographic database, the OPAC enables users to search and locate physical and digital holdings within a library's collection, significantly enhancing discoverability and usability (Igbudu & Ver, 2020; Natarajan, 2017). Its user-friendly interface functions not only as a discovery tool but also as a promotional mechanism that encourages deeper engagement with the library's resources and services (Ruzegea, 2012; Chigona et al., 2011). In conclusion, the ecosystem of e-resources, supported by robust digital infrastructure like databases, IRs, and OPACs, has catalyzed the evolution of academic libraries into dynamic digital learning environments. This transformation equips users with the essential skills and technologies to navigate the modern information landscape effectively, fostering a more inclusive, efficient, and collaborative research culture.

2.7 Utilization of Electronic Information Resources

Despite the availability of Electronic Information Resources (EIR) for nearly two decades, research on how students interact with and respond to these resources remains limited and yields mixed results (Arumuru & Oluwatobi, 2023). Studies have explored user demographics, usage patterns, and motivations, revealing that EIRs are widely adopted across various academic disciplines and user groups, including undergraduates, postgraduates, and

academic staff (Peiris & Peiris, 2013; Adeyoyin et al., 2016). EIRs are increasingly viewed as effective supplementary tools in teaching and learning, especially among students in disciplines such as nursing, economics, and the humanities.

Findings related to students' comprehension and familiarity with digital texts versus print materials are inconsistent. While some research suggests that screen-based reading may hinder comprehension, others report enhanced understanding or no significant difference at all (Tariq & Zia, 2014). These contradictory findings highlight the need for more systematic investigation into the educational impact of EIRs.

Students' engagement with EIRs is largely driven by academic needs. According to Akporido (2013), students typically use EIRs to locate specific information, explore academic topics, clarify complex concepts, and deepen understanding. The primary purpose of using EIRs is for reference and targeted reading rather than for extensive or leisure reading. EIRs are often preferred over traditional textbooks due to their accessibility and ease of use in organizing research content. While many studies confirm the widespread use of EIRs across age groups and academic levels, further research is necessary to examine their differential impact, particularly in relation to age and educational context.

2.8 Challenges in the Adoption of EIR

Despite significant technological advancements, the integration of Electronic Information Resources (EIRs) into medical education is impeded by a complex array of challenges. A primary barrier is a pronounced student preference for traditional print materials, which are perceived as more reliable, navigable, and conducive to established learning habits such as annotation and highlighting (Ojukwu et al., 2022; Tyagi, 2014; Baayel & Asante, 2019).

Further obstacles to adoption include significant usability issues. Students report difficulties with navigating digital interfaces, efficiently locating relevant content, and scanning information, which hinders effective use (Mukhtar & Maidabino, 2021). Prolonged screen exposure also leads to visual strain, a critical concern given the extensive reading demands of medical curricula, potentially resulting in discomfort and diminished information retention (Wagwu & Obuezie, 2019; Saigal & Sharma, 2017). The design of many EIRs, which often merely replicates print formats without leveraging digital affordances, fails to meet the specific needs of these learners (Chong, Lim & Ling, 2009; Kato, 2021).

These challenges are compounded by the rigorous demands of medical training. Time constraints and diverse study strategies limit opportunities for students to develop proficiency with digital platforms (Bankole & Nasir, 2020). Persistent concerns regarding the perceived reliability and functionality of digital content further entrench skepticism and reinforce the preference for print (Igbo & Imo, 2017).

In short, while EIRs offer substantial benefits in accessibility and convenience, their effective integration requires a user-centered approach. To enhance adoption, developers and educators must address critical issues of interface design, content presentation, and visual ergonomics, thereby aligning digital resources with the specific pedagogical requirements and preferences of medical science students (Adetunla, 2016; Ojukwu, 2020).

3.1 Research Methodology

Research Methodology provides a comprehensive overview of the research design, techniques, population, and sampling methods. It also explores the research paradigm, which serves as a foundational framework guiding the alignment between the investigator and the study approach, whether quantitative or qualitative. The paradigm involves the formulation of underlying assumptions and the development of a conceptual framework based on the research questions and objectives. Furthermore, the chapter discusses the sources and instruments for data collection, emphasizing their significance in interpreting the study's results. Finally, it presents a detailed examination of the data analysis methods applied to process and interpret the data obtained from respondents.

3.2 Research Design

This study utilized a quantitative, cross-sectional survey design. A self-developed questionnaire, constructed from validated instruments, was

distributed to a sample of medical students at KPMIS to investigate their adoption and use of Electronic Information Resources (EIRs). The survey method was selected for its cost-effectiveness, efficiency in data collection from a large group, and its suitability for gathering data on attitudes and behaviors at a single point in time. The resulting quantitative data were analyzed statistically to address the research objectives.

3.3 Population of the Study

This study utilized a quantitative survey research method, distributing questionnaires to collect data at KPIMS Peshawar. The target population comprised 680 Bachelor of Science (BS) students enrolled at KPIMS.

3.4 Sample Size

The sample size, representing a subset of the entire population, was determined using Raosoft software (http://www.raosoft.com). Based on the Raosoft calculator, a sample size of 246 was selected, ensuring a 95% confidence level and a 0.05 margin of error for this study.

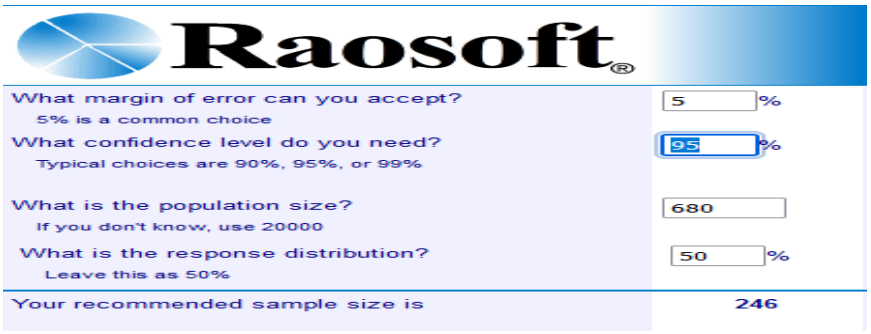

Figure No. 3.1: ***Sample Size Calculator***

3.4.1 Unit of Analysis

This study focused on analyzing BS students from all semesters at KPMIS who were enrolled in various programs of study.

3.5 Data Collection Procedure

The questionnaire, accompanied by a cover letter, was distributed to Bachelor of Science (BS) students at KPMIS. Additionally, the questionnaire was digitized into a Google Form to facilitate data collection electronically. The link to the online form was shared with students through WhatsApp groups and personal contacts. Due to an initially low response rate, the researcher subsequently engaged in direct, personal follow-up with the respondents to encourage participation.

3.6 Data Analysis

The collected data were entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 28. Both descriptive and inferential statistical methods were employed to address the research objectives. Descriptive statistics included measures such as mean, standard deviation, rank, and percentages, while inferential analysis utilized t-tests and ANOVA to examine significant differences within the data.

4.1 Demographic Information of the Respondents

4.2 Response Rate

A total of 260 questionnaires were distributed to a randomly selected sample of undergraduate health sciences students at KPIMS. Initial response rates were low, prompting the implementation of follow-up strategies, including telephone calls and in-person visits. These efforts resulted in 240 returned questionnaires. After data screening, 22 responses were excluded due to errors and missing values, yielding a final sample of 218 valid responses for analysis. This represented an effective response rate of 84%.

Table No. 4.1
Response Rate

Group	*Population (N)*	*Sample Size (n)*	*Questionnaire* Distributed	*Returned Questionnaire*	*Functional Questionnaire*
Medical Science students (Health Science)	*680*	*246*	*260*	*240 (92%)*	*218 (84%)*

4.3 Gender-wise Response Rate

The statistical data illustrated in the Figure 4.1 illustrates the gender distribution of the 246 respondents, indicating that 136 (62%) were male, while 82 (38%) were female. This data demonstrates a predominance of male participants in the sample.

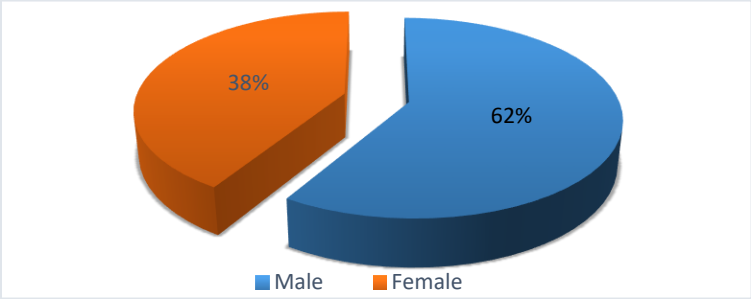

Figure 4.1: ***Gender-wise Response Rate***

4.4 Age-wise Response Rate

The numerical data shows in the Figure 4.2 illustrates the age distribution of the study participants, indicating that the predominant age group was below 25 years (n = 191, 88%). The subsequent age category, 26 to 30 years, accounted for 27 respondents (12%). The data further demonstrate that no participants were aged above 30 years.

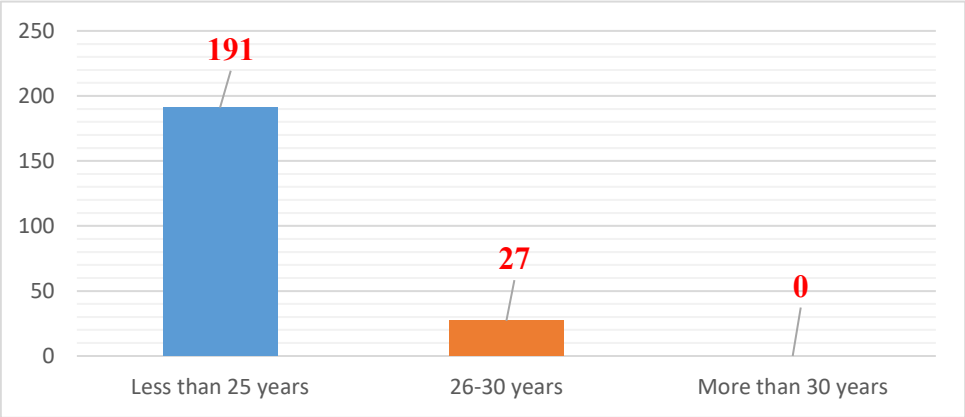

Figure 4.2: ***Age-wise Response Rate***

4.4 Semester-wise Response Rate

The data presented in Figure 4.3 illustrate the distribution of respondents according to their semester of study. The majority of participants were enrolled in the 3rd semester (n = 67, 31%), followed by those in the 8th semester (n = 46, 21%). The 7th semester students constituted the third largest group (n = 27, 12%), with the 1st semester students next (n = 23, 11%). Responses from the 6th semester accounted for 10% (n = 21), the 2nd semester for 6% (n = 14), the 4th semester for 5% (n = 11), and the 5th semester had the lowest response rate at 4% (n = 9).

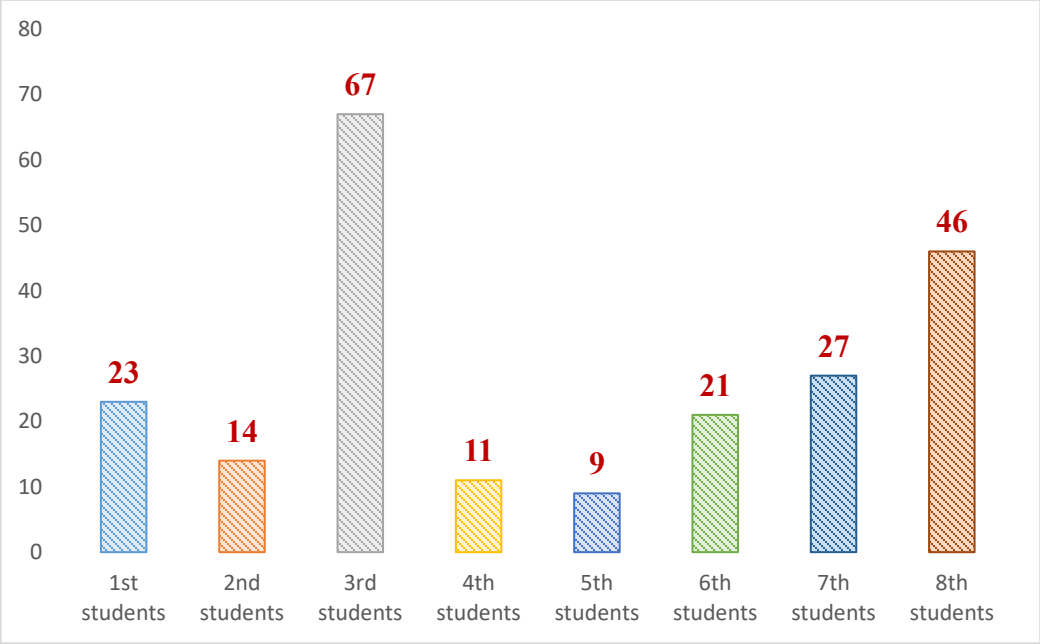

Figure 4.3: Semester wise response rate of students'

4.5 Findings of the Study

4.5.2 To examine the use of EIRs among the students at the Khyber Pakhtunkhwa Institute of Medical Science (RO-2)

To explore the significance of differences in knowledge and use of EIRs based on the selected demographic attributes of students at the Khyber Pakhtunkhwa Institute of Medical Science (RO-4)

Adoption and use of EIR among the medical science students at KPIMS and determine the significance of the difference between the use of EIR and selected demographics.

4.5.2.1 Capability to use the EIR

This study assessed medical science students' proficiency and attitudes toward Electronic Information Resources (EIR) through nine survey items. Results indicated strong overall agreement with eight statements, particularly regarding general internet proficiency (mean >4.0 for five items). However, significant difficulty was reported in troubleshooting download issues (mean=2.01). Three items showed moderate agreement (mean=3.19 To 3.21), suggesting areas needing further training. The findings highlight a correlation between EIR skills and academic efficiency, emphasizing the need for targeted support in technical problem solving to enhance digital literacy.

Table No. 4.3
Adoption and Use of EIR at KPIMS

Rank	Statements Regarding Adoption and Use of EIR	Mean	SD
1.	I am capable of downloading EIR from various search engines, the Internet, or websites	4.71	.539
2.	I can make use of Electronic Information Resources (EIR) provided by the KPIMS library	4.62	.542
3.	I am capable of utilizing the Electronic Information Resources (EIR) provided by the KPIMS library	4.17	.529
4.	I am able to utilize the Electronic Information Resources (EIR) provided by the KPIMS library	4.13	.315
5.	I am able to search for Electronic Information Resources (EIR) available at the library	4.12	.323
6.	I utilize Electronic Information Resource (EIR) learning tools at KPIMS	3.31	.417
7.	I have the ability to use Electronic Information Resources (EIR) at KPIMS	3.21	1.12
8.	I require assistance with using Electronic Information Resource (EIR) tools at KPIMS	3.19	.313
9.	I am able to troubleshoot any problems that may arise during the download of EIR	2.01	.543

An independent samples t-test was conducted to examine gender-based differences in Electronic Information Resources (EIR) use among medical science students. The analysis revealed a statistically significant overall difference between male and female students ($p \leq 0.05$). As detailed in Table 4.6, significant differences were observed in six of the nine assessed criteria, while three areas showed no significant gender-based variation. The results indicate that male students demonstrated significantly higher proficiency in EIR use and perceived these resources as more important compared to their female counterparts. These findings suggest that gender may influence both attitudes toward and competency with electronic information resources.

The significant disparities highlight the need for gender-responsive instructional strategies and support mechanisms to ensure equitable EIR utilization. Addressing potential underlying factors—such as differences in digital literacy, access patterns, or confidence levels—could help mitigate these observed gaps. Further investigation is warranted to identify the specific determinants driving these gender-based differences in EIR engagement.

Table No. 4.6
Significance of the difference in the use of EIR with Gender-wise (t-Test)

Rank	Statements (Items)	Male (n = 87)		Female (n = 61)		sig. $p \leq 0.05$
		M	SD	M	SD	
1	I am capable of downloading EIR from various search engines, the Internet, or websites	4.24	.333	3.97	.465	.084
2	I can make use of EIR provided by the KPIMS library	4.32	.450	4.65	.327	.071
3	I am able to utilize the EIR provided by the KPIMS library	4.70	.491	3.96	.389	.025
4	I am capable of utilizing the EIR provided by the KPIMS library	3.88	.411	.414	1.73	.001

5	I am able to search for EIR available at the library	4.28	.626	4.12	.349	.003
6	I utilize Electronic Information Resource (EIR) learning tools at KPIMS	2.21	.645	4.11	.468	.014
7	I have the ability to use Electronic Information Resources (EIR) at KPIMS	3.92	.901	3.96	.459	.025
8	I require assistance with using Electronic Information Resource (EIR) tools at KPIMS	3.09	.555	3.25	.345	.744
9	I am able to troubleshoot any problems that may arise during the download of EIR	4.19	.412	4.68	.439	.010

To further investigate variations in Electronic Information Resources (EIR) usage, a One-way Analysis of Variance (ANOVA) was conducted to examine differences across three participant age groups. Statistical significance was established at $p \leq 0.05$. As presented in Table 4.7, the analysis revealed that four of the nine evaluated items exhibited statistically significant differences in mean EIR usage scores across age groups. These disparities may reflect age-related variations in digital literacy, technological proficiency, or attitudes toward digital information access.

In contrast, no significant differences were observed across the remaining five items, suggesting that certain dimensions of EIR utilization remain consistent regardless of age. These findings indicate that while age is a differentiating factor in some aspects of EIR engagement, other use patterns are age invariant. The results underscore the value of age-responsive instructional design and support strategies in promoting effective EIR use. Tailoring interventions to address age-specific needs may enhance digital resource engagement, while consistent approaches can be applied in areas showing no significant variation. Further research is recommended to explore the underlying factors driving these age-related differences in EIR adoption and proficiency.

Table No. 4.7
ANOVA-Age-wise

Rank	Statements (Items)	<25 years M (SD)	26-30 years M (SD)	>30 years M (SD)	F-value	Sig. p ≤ .05
1	I am capable of utilizing the EIR provided by the KPIMS library	4.33 (.512)	4.47 (.647)	4.65 (.462)	.314	.021
2	I am able to utilize the EIR provided by the KPIMS library	4.20 (.613)	4.43 (.831)	4.34 (.562)	.425	.010
3	I can make use of EIR provided by the KPIMS library	4.21 (.724)	4.72 (.822)	4.43 (.692)	.674	.632
4	I am able to search for EIR available at the library	4.13 (.824)	4.22 (.678)	4.54 (.710)	.346	.032
5	I am capable of downloading EIR from various search engines	3.84 (.739)	4.22 (.536)	3.73 (.832)	.824	.822
6	I am able to troubleshoot any problems that may arise during the download of EIR	3.77 (.833)	4.15 (.753)	3.39 (.364)	.333	.601

7	I utilize Electronic Information Resource (EIR) learning tools at KPIMS	3.46 (.647)	3.75 (.911)	3.74 (.901)	.716	.007
8	I require assistance with using EIR tools at KPIMS	3.35 (.545)	3.85 (.656)	3.64 (.739)	.563	.354
9	I have the ability to use EIR at KPIMS	2.76 (.645)	3.53 (.746)	2.46 (.521)	.833	.546

4.5.3 To identify the challenges faced by the students in the use of EIRs at the Khyber Pakhtunkhwa Institute of Medical Science (RO-3)

4.5.3.1 Challenges faced in the use of EIR

This analysis identified and ranked nine primary barriers to Electronic Information Resources (EIR) utilization as perceived by medical science students at KPIMS. The two most prevalent challenges were, lack of electricity, ranked as the foremost barrier, and low internet speed, cited by 32% (n=70) and 34% (n=75) of respondents, respectively. A third significant obstacle was a deficiency in internet skills, identified by 13% (n=29) of students. Other acknowledged, though less frequently reported, barriers included the digital divide, lack of interest, absence of research needs, infrastructural limitations, time constraints, and affordability concerns. The ranking methodology prioritized barriers with higher mean values and, in cases of identical means, those with lower standard deviations to indicate stronger student consensus. These findings offer critical insights into the infrastructural and skill-based impediments that hinder effective EIR use within this student population.

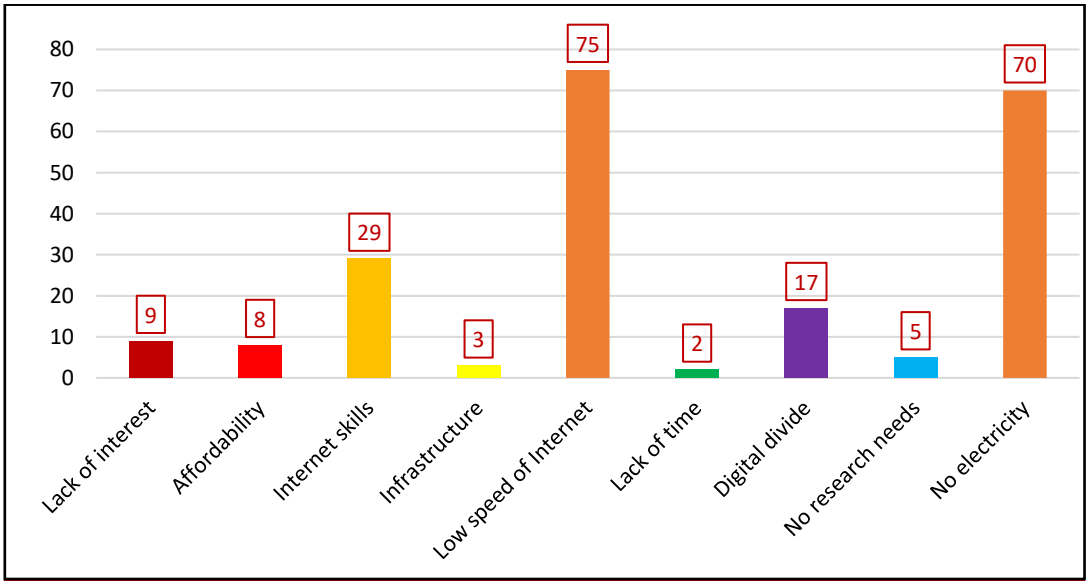

Figure 4.5: ***Challenges in the use of EIR***

Results, Conclusions & Recommendations

5.4 Conclusion

Based on the study's findings, it can be concluded that while students at KPIMS demonstrate proficiency in using Electronic Information Resources (EIR) and rely on them extensively, particularly via Android devices for research, significant barriers hinder their optimal utilization. The primary access point is their hostel, underscoring a preference for convenience, whereas the library is underutilized. A critical impediment is infrastructural, notably the unavailability of electricity, which adversely affects access and contributes to low satisfaction with current EIR services. To improve engagement and efficacy,

institutional interventions should prioritize reliable electricity supply and enhance the overall quality and accessibility of EIR infrastructure to better support academic and research activities.

5.5 Recommendations

Based on the study's findings, the following recommendations are proposed to enhance the utilization of Electronic Information Resources (EIR) at KPIMS:

1. Enhance EIR Service Infrastructure: Improve the quality and reliability of services providing access to EIR.
2. Proactive Librarian Engagement: Librarians should adopt a proactive role in facilitating EIR access and providing user support.
3. Promote EIR Awareness: Increase student awareness regarding the value and importance of EIR for academic research.
4. Address Infrastructure Barriers: Authorities must urgently resolve the persistent electricity shortages to enable uninterrupted EIR access and improve time efficiency for students.
5. Increase Database Visibility: Improve promotion of library-subscribed databases and EIR sources. This effort requires collaboration among librarians, faculty, and research supervisors.
6. Prioritize Challenge Mitigation: Institutional authorities should systematically address the key challenges identified and ranked by students to support effective EIR adoption and use.

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Questionnaire

Section 1: Demographics

1. Gender : Male Female
2. Age Group
3. Semester of Student:

Section 2: Research Objective 1:

Familiarity about the Electronic Information Resources (EIR)

1	Are you acquainted of the concept of the EIR
2	Do you know the value of EIR
3	Do you know the types of IER
4	Can you define the EIR
5	Do you know where the EIR can be accessed
6	Do you know the role library in the use of EIR
7	Can you retrieve EIR from Google
8	Do you the sources of EIR
9	Can you download the EIR from Internet
10	Do you know the databases providing EIR

Section 2: Research Objective 2:

Use of EIR at library of KPIMS, EIR usage locations, Tools adopted for the utilization of EIR, sources of knowledge of EIR

1	I am capable of utilizing the Electronic Information Resources (EIR) provided by the KPIMS library
2	I am able to utilize the Electronic Information Resources (EIR) provided by the KPIMS library
3	I can make use of Electronic Information Resources (EIR) provided by the KPIMS library
4	I am able to search for Electronic Information Resources (EIR) available at the library
5	I am capable of downloading EIR from various search engines, the Internet, or websites
6	I am able to troubleshoot any problems that may arise during the download of EIR
7	I utilize Electronic Information Resource (EIR) learning tools at KPIMS
8	I require assistance with using Electronic Information Resource (EIR) tools at KPIMS
9	I have the ability to use Electronic Information Resources (EIR) at KPIMS

No.	Places of using EIR
1	Computer Lab
2	Class Room
3	Home
4	Student hostels
5	KPIMS library

No.	Tools
1	PC
2	Laptop
3	Android
4	IPad
5	Tablets
6	Others

No.	Sources of knowledge of EIR
1	Parents
2	Heads
3	Library staff
4	Peers
5	Researchers
6	Senior students
7	Teachers
8	Other sections
9	Announcement Boards
10	supervisor

Section 3: Research Objective 3

Barriers in the adoption and use of EIR

Barriers in the adoption and use of EIR
Low Interest
Affordability
Skills of the use of
Infrastructure
Internet speed
Time unavailability
Digital divide
Demands of research
Electricity unavailability

Proposals for the advancement of the use of EIR

No.	Proposals
1	Speed of Internet
2	Electricity provision
3	Guidelines from supervisor
4	Support from librarians
5	Computer lab upgradation
6	Role of HoD
7	Structure upgradation
8	Technology training
9	Librarian should Train
10	Department should Train

Gratification with use of EIR at KPIMS

No.	Items
1	Not satisfied with use of EIR at KPIMS
2	Happy with use of EIR at KPIMS
3	EIR are always accessible
4	EIR services are good