

Usage Pattern of Medical Information through the *ClinicalKey* Database among Medical Professionals of the Postgraduate Institute of Medicine

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Abstract

The rapid proliferation of medical information in the present era has important implications for patient care, patient education, and health professionals' research. This research examines the medical information usage pattern through the *ClinicalKey* database of medical professionals at the Postgraduate Institute of Medicine (PGIM), Sri Lanka. The study was conducted from June 2019 to June 2021 in the postgraduate trainers and trainees of PGIM. The method used has been based on the access of medical facts available in the *ClinicalKey* database and a survey conducted on the usage patterns of trainers and trainees of PGIM. The results showed a growing interest in *ClinicalKey* among the medical professionals at PGIM. The survey showed that the majority of respondents are MD trainees. The major purpose of using resources in

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ClinicalKey as indicated by the users is for updating knowledge, patient care, diagnosis and treatment. Many medical professionals use the e-book: Principles and Practice of Infectious Diseases by Mandell, Douglas, and Bennett (9th edition) and uses the journal, Surgery (Oxford). According to the keywords, ‘surgery’ is highly searched for research needs and education purposes. The study shows that medical professionals use e-resources often and spend more time on them. It is found that they use e-resources most frequently at home (48.40%). that medical professionals mostly use laptops to access e-resources of *ClinicalKey*, followed by tablets. Among satisfaction levels with medical information, 71.4% of the medical professionals were happy with the *ClinicalKey* e-resources. 14.3% of medical professionals suggested an orientation program regarding the *ClinicalKey* database.

Keywords: E-resources, ClinicalKey, Usage Pattern, Medical Professionals, Medical Information, Online Database, Information-Seeking Behaviour

Introduction

The invention of the internet has brought in an unprecedented use of e-resources for research and development in recent years compared to the diminishing use of print resources. Usage of the library by medical professionals is an essential means of enhancing their knowledge and self-directed learning skills. Information technology has affected the information-seeking behaviour of information users. Medical professionals utilise information sources such as medical databases to meet their diverse needs and to acquire up-to-date information. [Williams](#) (1992) categorised the information needs of health professionals, for example, confirming or disconfirming existing knowledge, assisting in solving a new or unfamiliar health care problem, and updating basic knowledge on a topic through review. Also, to get information from another speciality when dealing with a patient or person with multiple problems and to highlight patient care concerns to other health care team members. Further, it includes finding out about a rare or unusual patient care problem and determining whether a knowledge gap exists in the literature and whether a new research project or publication should be planned and assisting in implementing new administrative or organisational initiatives.

Medical information carries very high importance in any nation as its status determines the level of wellbeing of the people in a country ([Institute of Medicine](#), 2003). Therefore, providing quality medical information is the duty of any government and institution dealing with medical training. This study may be more critical in postgraduate training as trainees use such information in their decision making – ensuring patient safety and quality of care – as well as in their professional

development. Therefore, fulfilling information needs is essential for postgraduate medical professionals to perform their professional duties efficiently and effectively. At the same time, it is also necessary that medical professionals be skilful in gathering relevant information using appropriate resources. Therefore, postgraduate training institutions in medical education should understand the importance of utilisation of electronic medical databases efficiently to fulfil the information needs. Electronic knowledge resources have been defined as electronic (computer-based) resources comprising distilled (synthesised) or curated information that allows clinicians to select content pertaining to a specific patient to facilitate medical decision making ([Aakre, 2018](#)).

This study provides data on the effective utilisation of medical information e-resources by the postgraduate medical trainees and trainers of the PGIM, University of Colombo: with reference to the *ClinicalKey* database. *ClinicalKey* is an online search engine launched by Elsevier in April 2012, and it is one of the most significant, most comprehensive products currently available for finding clinical medical information. Moreover, it provides an insight into clinical information that addresses essential clinical research requirements of physicians, medical librarians, and healthcare professionals. Also, it draws answers from the most extensive collection of clinical resources, covering every medical and surgical speciality ([Wadasinghe, 2020](#)). *ClinicalKey* offers 1362 full-text medical and surgical e-books and access to 862 full-text medical and surgical journals from the Elsevier collection and the Clinics of North America and has 11,200 practise guidelines and more than 2,600 drug monographs. It provides two types of multimedia access to 5,726,614 images and medical and surgical videos from books and journals.

ClinicalKey offers more than 15,000 patient education handouts provided by the American Academy of Family Physicians, Elsevier Gold Standard, Ferri's Netter Patient Advisor, and Interactive Patient Education ([Elsevier](#), 2021).

A medical practitioner must be capable of diagnosing and curing patients' diseases. Medical information must be accessible, authorised, reliable, accurate and timely. There is a dire need for a solid information system for health care professionals to meet the diverse information needs to perform their professional duties effectively and efficiently. Information about information usage patterns and information-seeking processes is essential in this regard. This study attempts to address this need of medical professionals at the Postgraduate Institute of Medicine, University of Colombo.

Statement of Problem

Library of the PGIM of Sri Lanka purchased the *ClinicalKey* database in 2019 to meet the information needs of present and future medical professionals. There has been no detailed study conducted so far to measure the use of e-resources of the *ClinicalKey* database and to assess factors that may influence the usage of these resources. Therefore, an inquiry is necessary to explore the usage of e-resources in the PGIM and the barriers that affect the effective use of these vital resources.

Scope of the Study

The scope of the study is to identify the medical information usage pattern by medical professionals in PGIM and to use its analysis to understand the impact of the medical information usage pattern of the

PGIM library. Decision-makers can use the retrieved data of the study during the planning and setting of various strategies to promote the utilisation of electronic resources in the Postgraduate Institute of Medicine and other medical institutes.

The Objective of the Study

ClinicalKey is a reliable search engine and, it is an essential database for medical and surgical information. The main objective of this study was to explore and determine the *ClinicalKey* medical information usage pattern of medical professionals in PGIM. The objectives of this study are given below.

- To determine the information usage patterns of medical professionals on *ClinicalKey*
- To investigate the medical information resources used by medical professionals on *ClinicalKey*
- To assess the level of satisfaction with *ClinicalKey*

Review of Literature

The utilisation of information technology to obtain medical e-resources has changed the information-seeking behaviour of PGIM medical professionals across the island over the last decade. The medical professionals utilise electronic medical resources to fulfil formal academic requirements and upgrade their knowledge for continuous professional development and patient care decision-making. Also, Medical information databases and electronic resources are the crucial resources that provide medical professionals with valid and up to date scientific information. According to [Callen](#) (2008), doctors are at the

forefront of utilising modern information technologies for acquiring up-to-date information. Multiple studies have been conducted to explore the effective utilisation of medical information e-resources by medical practitioners. The medical database tools help the health care professionals to make better-informed clinical decisions in a short period resulting in more accurate diagnosis and more effective treatment of the patient (Patel, 2015). Asemi & Reyahiniya (2007) also confirmed that most users are well aware of digital resources available in the library. The study highlights users are faced with problems like low-speed connectivity and shortage of hardware facilities. Moretti (2012) has surveyed access to health information on the internet and related to the public health issue. This study aims to understand the user profile and search trends for health information on the internet. This study confirmed that the internet is a significant source of health information to improve data quality and promote public health. A systematic review and meta-analysis revealed that electronic information resources were associated with higher success in answering clinical questions than alternative resources, with varying effects on speed.

When comparing different implementation options for the same electronic knowledge resource, it appears that allowing physicians to choose how they want to access the resource versus an automatic display of resource information and incorporating patient-specific data have advantages (Maggio, 2019). Studies indicate that future enhancements should include university-wide online access to reputed journals and other key resources, improved computers with fast connectivity, information literacy training programs, and continued literature search sessions are key to practicing evidence-based medicine (Perera, 2015 &

[Korukire](#), 2018). The literature further identified some of the factors affecting the utilisation of e-resources such as lack of awareness about electronic resources available in the library, insufficient IT equipment, lack of continuous training, high cost of resources, low-speed connectivity, quality of bandwidth internet, lack of time, workloads or too tight work schedules and a distinct preference for asking an expert colleague or consulting a print source had been reported as barriers to the use of online bibliographic databases ([Kwadzo](#), 2015; [Ehioghae](#), 2020 & [Alison](#), 2012). Also, a few studies identified that lack of quick and easy access to information, lack of access to EBM tool and lack of skills to identify and filter the useful information as a barriers to search reliable literature for clinical decisions, safe patient care and continuous professional development. ([Phua](#), 2007 & [Nwafor-orizu](#), 2015). The information needs of health professionals stem from various factors, including patient care, patient education, professional curiosity, and research. The type of information used by health professionals depends on several factors, including the topic or issue in question, the knowledge base of the health professional, their knowledge of information sources, and the purpose for which the information will be used.

Methodology

The trainers, trainees, examiners, academic and library staff of the PGIM have been given access to the *ClinicalKey* database for academic purposes through the PGIM domain email. All those registered users utilise the *ClinicalKey* database as remote access. The total number of 2,043 users are registered with the *ClinicalKey* database for the period of 2019 June to 2021 June. The main source from which the information

was gathered was the e-resources of the *ClinicalKey* database. In addition, all the medical professionals registered with the database were selected as the sample. Except for the library staff, 0.3% (n = 6), information was collected from all medical professionals registered with the *ClinicalKey* database during the survey period. Accordingly, trainers (academic staff of the PGIM) and examiners 34.3% (n = 701) and trainees 65.4% (n = 1336) were selected for the sample, respectively.

An online self-administered structured questionnaire with open-ended and closed questions was used to collect data regarding usability, accessibility, and the credibility of the *ClinicalKey* database for making clinical decisions. The questionnaire was designed and piloted with 12 medical professionals before being administered using an online Google form for participants with internet access. After conducting a comprehensive review of the literature, the questionnaire was designed. It was a well-structured questionnaire used as a tool for data collection, and collected data were analysed using SPSS statistical software.

Results and Discussion

The collected data from the *ClinicalKey* database and questionnaire was evaluated and interpreted, and the same is presented in the following tables and figures. Analysis of information is the decisive stride in the research process. It is the link between data and significant results leading to conclusions. With *ClinicalKey*, medical professionals can access the latest evidence across specialities in a variety of tools.

Performance Metrics of Registered Users

The performance metrics of month-wise registered users in the *ClinicalKey* database for the period 2019 to 2021 is shown in Table 1 and Figure 1.

Table 1

Month-wise registered users

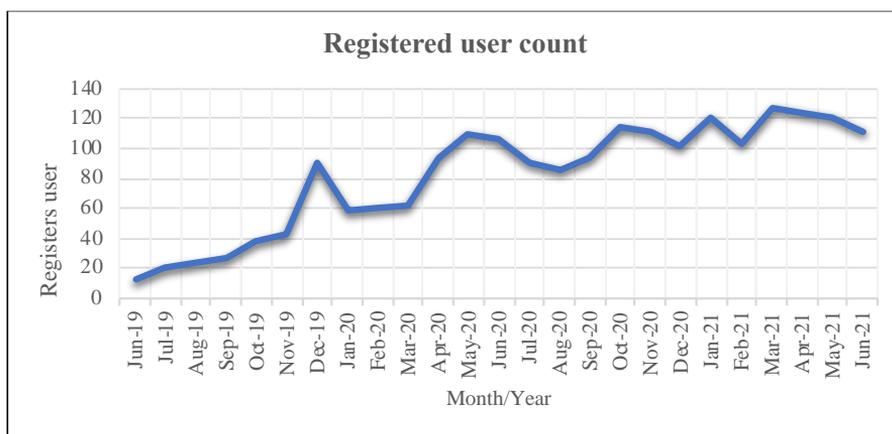
Month/Year	Registered User	%
Jun-19	13	0.64
Jul-19	21	1.03
Aug-19	23	1.13
Sep-19	27	1.32
Oct-19	38	1.86
Nov-19	43	2.10
Dec-19	90	4.41
Jan-20	58	2.84
Feb-20	60	2.94
Mar-20	62	3.03
Apr-20	93	4.55
May-20	109	5.34
Jun-20	106	5.19
Jul-20	90	4.41
Aug-20	85	4.16
Sep-20	93	4.55
Oct-20	115	5.63
Nov-20	111	5.43
Dec-20	101	4.94

Jan-21	120	5.87
Feb-21	103	5.04
Mar-21	127	6.22
Apr-21	123	6.02
May-21	121	5.92
Jun-21	111	5.43
Total	2043	100

According to the month-wise registered users, the lowest number of registered users are found in June 2019 (0.64%), and the highest number of registered users are found in March 2021 (6.22%).

Figure 1

Registered user count



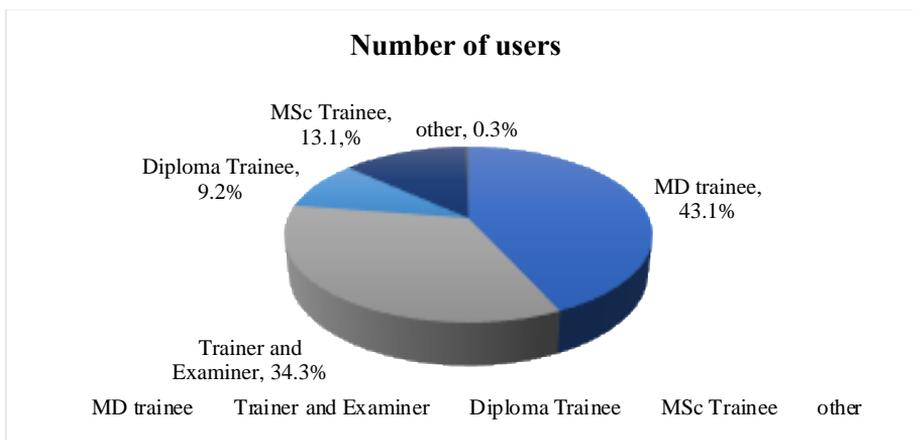
Category Wise Data of the Registered Users

Figure 2 shows collected data from different medical professionals, namely MD trainees 43.1%(n=881), Trainers and Examiners 34.3%(n=701), MSc Trainees 13.1%(n=267), Diploma

Trainees 9.2%(n=188) and other 0.3% (n=6), respectively. Most MD trainees are using the *ClinicalKey*.

Figure 2

Category wise data of the medical professionals



Usage Pattern of e-books

ClinicalKey provides more than 1,000 full text medical and surgical e-books. Table 2 presents the top 25 most frequently retrieved e-books on *ClinicalKey* from June 2019 to June 2021. Principles and Practice of Infectious Diseases (Ninth edition) by Mandell, Douglas, and Bennett's has 'the highest frequency.

Table 2

Top 25 e-Books used in Clinicalkey database

Title	Frequency
Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases (Ninth edition)	858
Nelson Textbook of Pediatrics (Twenty-first edition)	824

Goldman-Cecil Medicine (Twenty-sixth Edition)	749
Campbell-Walsh Urology (Twelfth Edition)	741
Rosai and Ackerman's Surgical Pathology (Eleventh Edition)	612
Medical Microbiology (Nineteenth Edition)	608
Rosen's Emergency Medicine: Concepts and Clinical Practice (Ninth Edition)	601
Braunwald's Heart Disease: a Textbook of Cardiovascular Medicine (Eleventh Edition)	584
Henry's Clinical Diagnosis and Management by Laboratory Methods (Twenty-third Edition)	583
Current Surgical Therapy (Thirteenth Edition)	482
Miller's Anesthesia (Ninth Edition)	482
Plastic Surgery (Fourth Edition)	379
Comprehensive Clinical Nephrology (Sixth Edition)	377
Abdominal Imaging (Second Edition)	373
Cummings Otolaryngology (Seventh Edition)	369
Sleisenger and Fordtran's Gastrointestinal and Liver Disease (Eleventh Edition)	365
Robbins & Cotran Pathologic Basis of Disease (Tenth Edition)	363
Kumar and Clark's Clinical Medicine (Tenth Edition)	362
Sabiston Textbook of Surgery (Twentieth Edition)	360
Bradley's Neurology in Clinical Practice (Seventh Edition)	356
Brenner and Rector's the Kidney (Eleventh Edition)	356
Dermatology (Fourth Edition)	353
Hematology (Seventh Edition)	251
Cummings Otolaryngology (Sixth Edition)	249
Underwood's Pathology: a Clinical Approach (Seventh Edition)	248

Usage Pattern of e-journals

ClinicalKey provides more than 700 full text medical e- journals. Ranking of the top e-journals on the research output on usage patterns for the year 2019-2021 is given in Table 3. Surgery (Oxford) is the leading journal with a maximum frequency.

Table 3

Top 25 e-journals in Clinicalkey database

Title	Frequency
Surgery (Oxford)	760
Ferri's Clinical Advisor 2021	610
Surgical Clinics of North America	557
Paediatrics and Child Health	530
BJA Education	409
Ferri's Clinical Advisor 2020	372
Medicine	366
The Lancet	310
Anaesthesia & Intensive Care Medicine	299
Journal of the American College of Cardiology	235
Conn's Current Therapy 2020	209
American Journal of Obstetrics and Gynecology	203
American Family Physician	202
Emergency Medicine Clinics of North America	195
Obstetrics, Gynaecology & Reproductive Medicine	186
Journal of the American Academy of Dermatology	185
The Lancet Infectious Diseases	182
Pediatric Clinics of North America	181

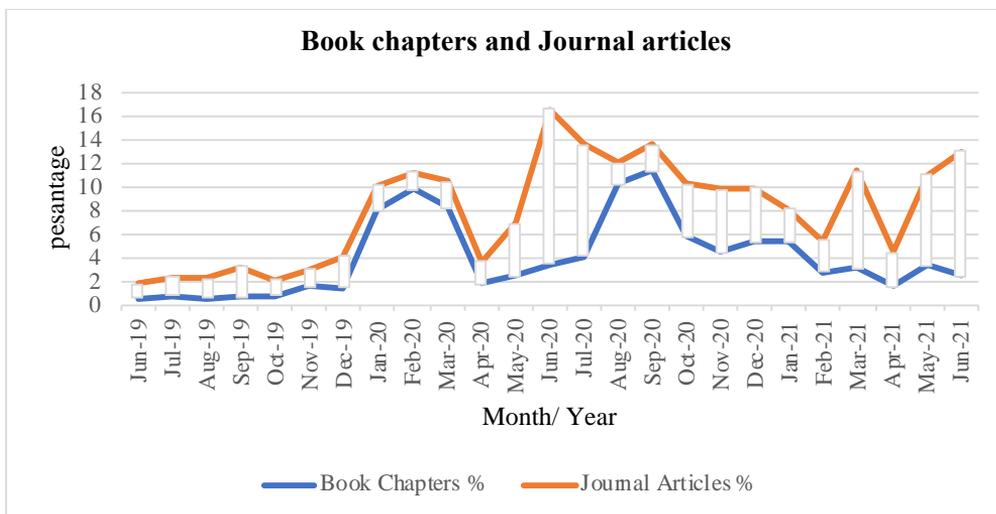
Journal of Oral and Maxillofacial Surgery	178
Best Practice & Research Clinical Obstetrics & Gynaecology	176
Patient Education - Exit Care	158
Clinics in Dermatology	157
Gastroenterology	156
International Journal of Oral and Maxillofacial Surgery	156
Endocrinology and Metabolism Clinics of North America	155

Usage Pattern of Book Chapters and Journal Articles

The count of registered medical professionals who actively logged into their accounts during the reporting periods were significant. Figure - 3 exhibits the month-wise usage of book chapters and articles for the respective years.

Figure 3

Usage pattern of Book chapters and journal articles



The medical professionals used a total count of 37,329 book chapters within the study period. This analysis showed that the most used number of book chapters were in September 2020 with 4,223 (11.31%), August 2020 with 3,796 (10.17%) and February 2020 with 3,648 (9.77%) book chapters, each being published and ranked 1st, 2nd and 3rd place in the period of study. According to the total number of users of journal articles (23,877), the lowest number of users was found in June 2019 (1.21%), and the highest number of users was found in June 2020 (13.12%).

Clinical Resources Tools

Table 4 shows the usage pattern of clinical resources. Every user has access to clinical resources through different approaches. Most of the users (23.67%) are much aware of comprehensive topic summaries for the clinical question (clinical overview), 14.84% of them looked for information to educate and empower the patient (patient education), 15.28% for image and video collection organised by speciality (multimedia), 15.95% are slightly aware of clinical trials experiments or observations done in clinical research (clinical trial), 14.14% of users looked for drug and dosing information to guide treatment decision (drug), followed by 8.15% being much aware of latest clinical guidelines from the leading organisation (guideline), and 7.97% were interested in quick videos to guide the procedure for best practice (procedure consults).

Table 4

Usage pattern of clinical resources

Clinical resources tools	Records	%
Clinical overview	2826	23.67
Patient education	1772	14.84
Multimedia	1824	15.28
Clinical trial	1904	15.95
Drug	1688	14.14
Guideline	973	8.15
Procedure consult	951	7.97
Total	11938	100

Usage Pattern of Different Information Resources

Responses showed that the greatest number of respondents use book chapters for seeking information which is depicted in the following chart (Table 5).

Table 5

Usage Pattern of Different Information Resources

Information Sources	Mean	Median	Variance	Standard Deviation
Book chapter	1493.16	1180	1469832.06	1212.37
Journal article	955.08	632	603526.08	776.87
Clinical overview	113.04	101	1281.96	35.80
Patient education	70.88	72	98.78	9.94
Multimedia	72.96	74	166.46	12.90
Clinical trial	76.16	78	130.81	11.44

Drug	67.52	65	165.93	12.88
Guideline	38.92	41	51.58	7.18
Procedure consult	38.04	38	36.87	6.07

In the above table, the mean number of retrieving book chapters is 1493.16, whereas the variance is relatively very high, which means that the number of retrievals is broadly spread. In other words, the number of accurate retrievals in some months is enormously more elevated than the mean number of retrievals. The journal article having 955.08 as the mean, also shows the same spread pattern of retrievals as the table vehemently depicts. The other information resources show a spread pattern very close to the mean number of retrievals.

Performance Metrics of the Content View

Figure 4 shows the percentage of information searching view using *Clinicalkey*.

Figure 4

Content view

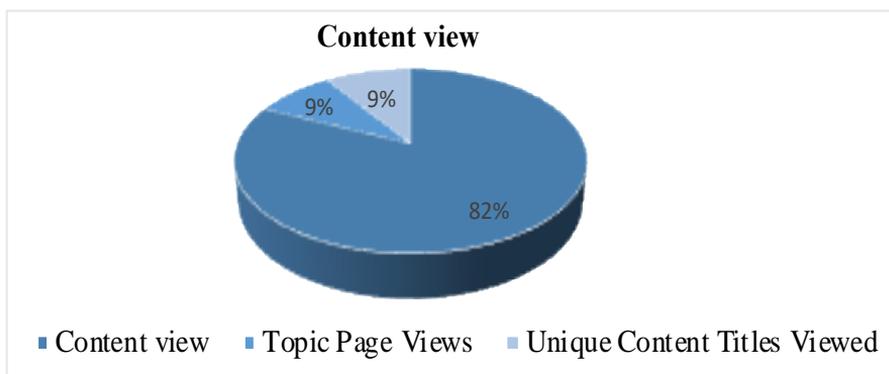


Figure 4 reveals 82% of the content view that displays the most relevant content for each item. Furthermore, the total number of topic pages and unique content titles (it means the content is original and not duplicated anywhere else) display 9% each for the information searched by the medical professionals.

Preference Level of Using e-resources

Table 6 depict the preferred format for getting clinical resources information through *ClinicalKey* among the medical professionals. These resources are available as PDFs and can be added to presentation, emailed, and printed downloaded to read offline.

Table 6

Preference level of using e-resources

Preference level	Record	%
PDF Downloads	125216	93.51
Content Prints	7350	5.49
Presentation Export	1347	1.01
Total	133913	100

The above table shows the preferred format for downloading the article, printing and exporting it to presentations from the *ClinicalKey* database. The majority of medical professionals have used 125,216 (93.51%) PDF format, 7,350 (5.49%) content print, and 1,347 (1.01%) presentation exports. Therefore, most users use PDF format instead of other formats.

Keywords of Unique Content Titles Viewed

Highly productive keyword areas output for the study period of 2019 to 2021 found a total of 25 specialities.

Table 7 shows the top twenty-five high productive subject areas in research output in the *ClinicalKey* database. The keywords of unique content titles were viewed during 2019-2021 in the context of subject areas (as reflected in *ClinicalKey* database classification), with the highest keyword output coming from surgery, followed by general medicine and paediatrics. The lowest contribution of keywords among the top 25 list of keywords occupied in internal medicine publications.

Table 7

Keywords of unique content titles viewed

Keywords	No of the content titles viewed
Surgery	2716
General medicine	1909
Paediatrics	1635
Emergency Medicine	1580
Pathology	1534
Anaesthesiology	1439
Neurology	1433
Microbiology	1414
Family medicine	1396
Endocrinology	1393
Cardiology	1390
Dermatology	1313

Pharmacology and Therapeutics	1289
Rheumatology	1278
Psychiatry	1275
Obstetrics and Gynaecology	1269
Forensic Medicine	1268
Orthodontics	1264
Anatomy	1254
Nutrition	1244
Histopathology	1241
Dentistry	1187
Internal Medicine	1174
Parasitology	1153
Disaster Management	1151

Purpose of Using e-resources of *ClinicalKey*

Medical information helps medical professionals with decisions and actions. It enhances patient care by making it more efficient while the patient records and medical knowledge are captured, processed, communicated, and applied ([Wyatt & Sullivan, 2005](#)).

The study sought to determine the purposes of using electronic resources by trainers, trainees and academics attached to the PGIM. To obtain the answers, the respondents were asked to indicate their purposes of using *ClinicalKey* in their respective locations, as outlined in the figure below.

Figure 5

Purpose of using e-resources of ClinicalKey

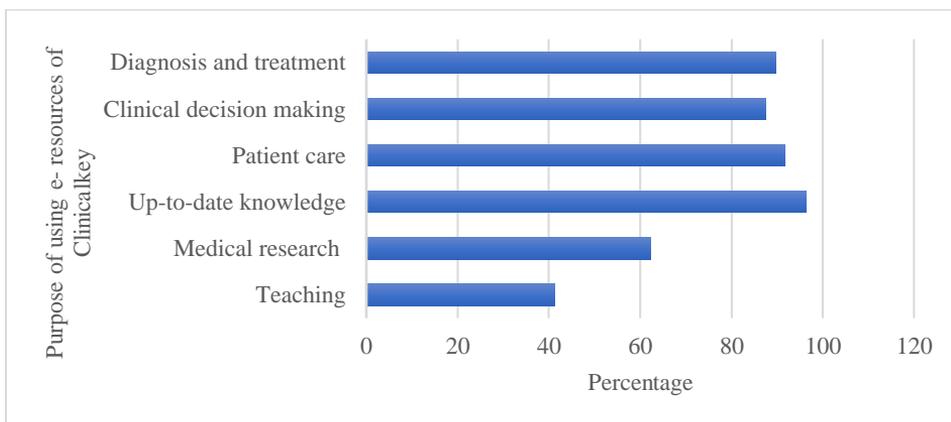


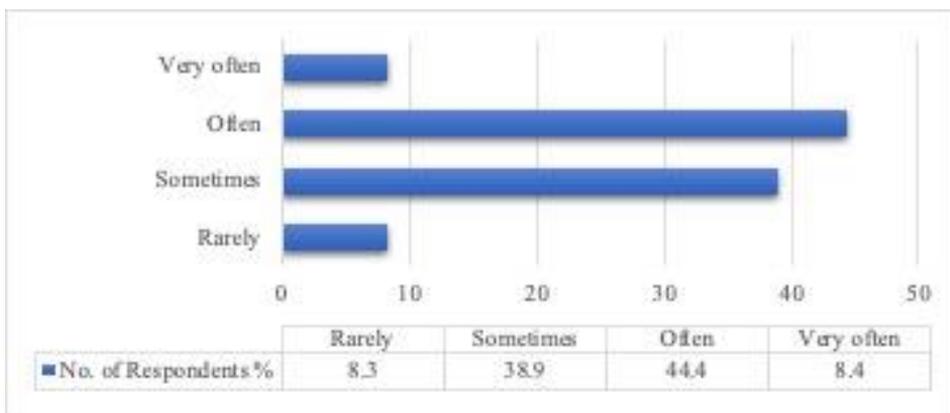
Figure 5 above presents the information on the purpose for using resources in *ClinicalKey* by users. For up-to-date knowledge (96.4%) was ranked highest as the main purpose for using resources in *Clinicalkey* and was followed by patient care (91.7%), diagnosis and treatment (89.8%), clinical decision making (87.75%), medical research (62.2%) and teaching (41.34%) respectively.

Frequency of Using e-resources

Medical professionals were requested to mark their frequency of the use of e-resource under one of the headings – very-often, often, sometimes, and rarely (Figure 6) to determine the frequency of use of e-resources of *ClinicalKey*. Regarding the frequency of using e-resources, the respondents have reacted differently. Figure 6 shows that 44.4% of medical professionals use *Clinicalkey* e-resources often, 38.9% use these sometimes, and 8.4% very often. 8.3% of medical professionals use e-resources rarely.

Figure 6

Frequency of the use of e-resources of ClinicalKey

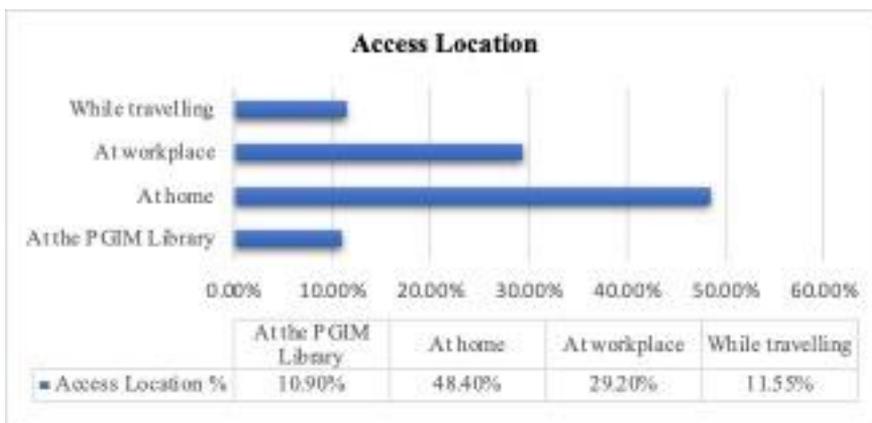


Location of Accessing of ClinicalKey e-resources

Medical professionals were requested to mention their most convenient location or using *ClinicalKey* e-resources (Figure 7).

Figure 7

Place of accessing ClinicalKey



The place of accessing e-resources of *ClinicalKey* by medical professionals is mostly from home (48.40%, n=985). It was followed by

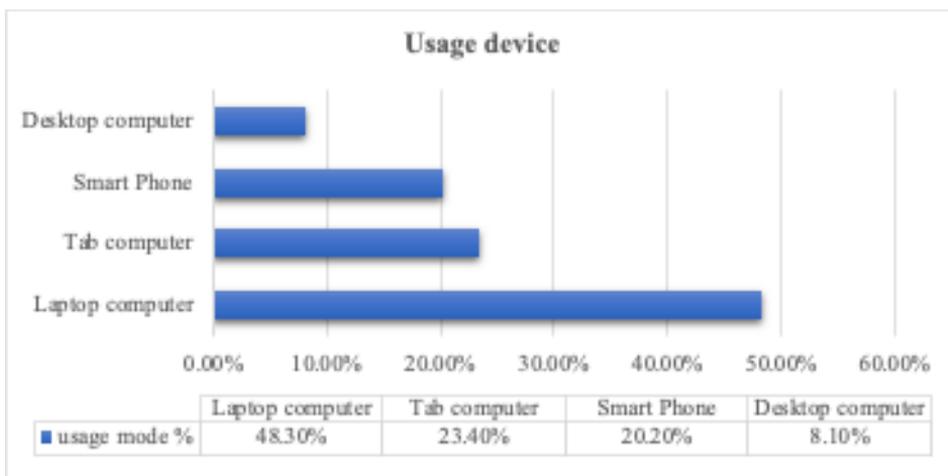
the number of accesses at the workplace with 29.20% (n=595). While 11.55% (n=235) use and access e-resources while travelling and 10.9%(n=222) use the e-resources at the library of the PGIM.

Usage of Devices to Access

The chart below depicts the preference for comfortable handling of the devices by medical professionals.

Figure 8

Usage of devices to access the e-resources of ClinicalKey



The most used devices to access *ClinicalKey* e-resources are laptop computers followed by tab computers. Use of smart phone is 20.2% and desktop computer 8.1%.

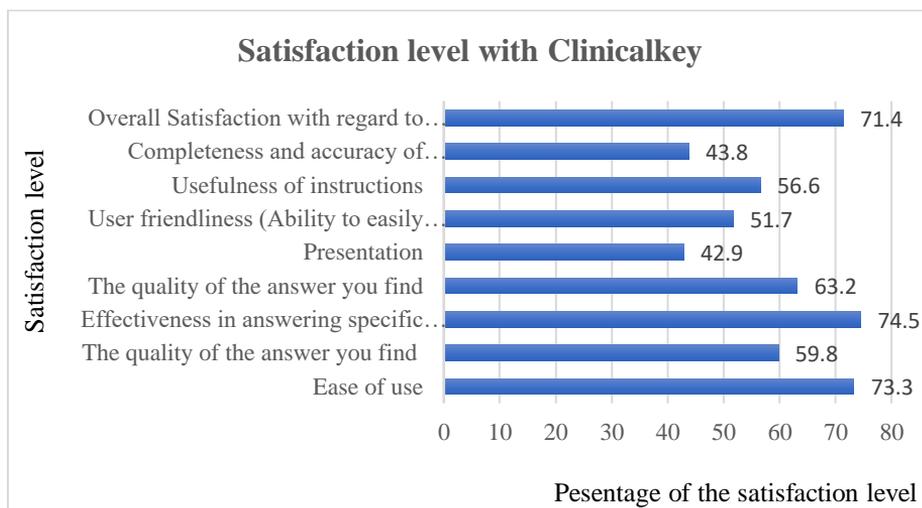
Level of Satisfaction with *ClinicalKey* e-resources

Figure 9 analysed satisfaction on e-resources in *ClinicalKey* among the medical professionals. On analysing the satisfaction level of

medical professionals with e-resources for retrieving the required information, most of the medical professionals were satisfied with their effectiveness in answering specific clinical questions (74.5%), followed by 73.3% with the ease-of-use whereas 71.4 % for overall satisfaction with *ClinicalKey* database. Above figure 9 shows that 63.2% are satisfied with the quality of the answer that was found, and 59.8% are happy with the quality of their solution. Followed by 56.6% being pleased with the usefulness of instructions and 51.7% being satisfied with user-friendliness.

Figure 9

Level of satisfaction with ClinicalKey resources



Concerning completeness and accuracy of instructions, 43.8% are satisfied, and 42.9% are satisfied with the presentation of the *ClinicalKey*. Hence, the above figure clearly shows that in the level of

satisfaction with the *ClinicalKey* database, the majority of respondents are delighted with the medical information of the *ClinicalKey*.

Conclusion

Medical information is essential for medical professionals to diagnose and cure patients' diseases. There was a need for a solid information–system for health care professionals to meet the diverse information needs in performing their professional duties effectively and efficiently. The main objective of this study is to improve the provision of high-quality medical information to PGIM medical professionals. *ClinicalKey* database fulfils the medical professional's requirements of medical information. The study thus leads to examine the information-seeking behaviour of the users of PGIM and shows that they have a greater interest in *ClinicalKey* database provided by PGIM. Medical information is an important commodity in every aspect of their profession. The Library of the PGIM is one of the medical information centres which facilitates the growth of professional careers of medical professionals as well as creating goodwill and healthy society. The proliferation of e-resources has a major impact on medical professionals' use and preserve medical information.

This study provides the pattern of usage of all registered medical professionals of *ClinicalKey* of PGIM from 2019 - 2021. All registered users have used the *ClinicalKey* database with remote access. The majority of them are delighted with *ClinicalKey*- resources and their ease of use and the effectiveness of answering specific clinical questions. It is observed that MD respondents mainly used e-resources. The survey results showed that postgraduate doctors preferred to use e-books and e-

journals. *ClinicalKey* electronic resources impose a significant impact on medical professionals' use of medical information.

The analysis of the study shows that *ClinicalKey* electronic resources plays a vital part in medical information provision and are widely used by medical professionals of PGIM. It has an impact on the way of searching and disseminating information. It reveals that most medical professionals are aware of *ClinicalKey* e-resources and use this e-resource to search for medical information online. However, this finding showed that most of the respondents were using electronic databases purposely for research activities and thesis writing. Hence there is a dire need for effective user education, orientation programme, workshops, seminars etc. among the medical professionals of the PGIM so that they can get the maximum benefit from the e-resources of *ClinicalKey*.

The study concluded that *ClinicalKey* e-resources provide the opportunity to access the current and up-to-date data/information. These valuable information resources have been utilised by most of the medical professionals of the PGIM for better informed and updated medical knowledge.

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