

# INFORMATION SEEKING AND LITERATURE SEARCHING SKILLS AMONG PULMONOLOGIST DURING THE COVID-19 PANDEMIC

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## ABSTRACT -

The COVID-19 pandemic has caused considerable changes in the life of all, especially among pulmonologist. The purpose of this present study is to identify the information-seeking and literature searching skills among the pulmonologist during the COVID-19 pandemic. The survey was conducted through the online mode. The questionnaire was distributed to the pulmonologist, finally we retrieved 90 respondents. We followed random sampling for this study. The data were analyzed using the SPSS software and tests such as frequency, correlation, and ANOVA was carried out in this study. This study results, that pulmonologist sometimes use (47.8%) human information resources, (33.3%) printed information resources and electronic information resources. This study concludes that the government should stop the spreading of fake news about COVID-19, it will help the pulmonologist. The Libraries should help the doctors for information seeking time. This would be helping to doctors improve their information seeking and literature search skills in future.

**Keywords :** Information seeking, literature searching skills, information resources, covid-19 pandemic and pulmonologist.

## INTRODUCTION

The library is one of the best information resource centers, which provides various qualitative and quantitative resources. But during the covid-19 pandemic, access to library resources is now the way at home because they don't have choices to go to the library Anaraki & Babalhavaeji (2013). Brennan et al., (2014) has investigated that human information behaviour, such as the information needs and information behaviour can follow physiological needs, cognitive needs and affective needs. Medical professionals need information from reputed sources to get down their work. Medical professionals also use printed resources, such as books, newspapers, pamphlets, journals, and other documents covering relevant topics Yamson et al., (2018).

The printed and web-based electronic sources are very much helpful for medical professionals to solve their medical issues. Unluckily, the web-based networks have a large number of documents, most of which are unrelated to their needs Chen et al., (2003). They also face a struggle to find their educational and general information needs. Schlupeck et al., (2021) has reported that searching for information on the web portal is not an easy task; it's a learning tool because they need web searching skills. Electronic information resources such as electronic books, databases, online tutorials, and social media are available from the search engine (Google). Nowadays, the web has so many medical databases, containing full articles, abstracts, titles, and metadata. For example, the most popular web-based databases are Medline and PubMed. Hirt et al., (2020) has pointed out that the literature searching skills such as the quality of search strategy, study retrieval, precision and the search methods consisted of searching databases such as the CINAHL, Embase, MEDLINE, PsycINFO, Web of Science. Ilic et al., (2012) has proposed that there are methods of web-based literature search skills such as quick/basic search, advanced search, Boolean operators, and index browsing. Quick/basic literature searching means searching search terms and keyword searching to find their requirement. Medical professionals also use advanced searching methods like searching the specific title, author, subject, ISBN (International Standard Book Number), ISSN (International Standard Serial Number, it's for magazine) Kuiper et al., (2008). Information can be easily accessed from search engines but does not require being useful resources. That's why user interface, virtually all search engines make use of Boolean methods for information retrieval, which is

named after George Boole, who has explained this in his work with the symbolic logic. Therefore, effective searching requires the formulation of Boolean queries or operators. This Boolean consist of words or phrases as well as probable to the topic of interest, it's included by logical operators such as AND, OR, NOT, and proximity operators Bronander et al.,(2004).

Doctors also need COVID-19 information because they gave the treatment to patients. They have to know about the COVID 19 symptoms identification, COVID 19 patient's isolation/quarantine procedures and practices, COVID 19 treatment procedure, drug dosage for COVID 19 patient treatment, research on COVID-19 vaccine, and self-protection from COVID 19.

## **REVIEW OF LITERATURE**

Siemensma, G and Clayworth, C. (2021) carry out their study on the quality and impact of health librarian-mediated literature search service at a regional hospital in Victoria, Australia. This study surveyed e-mail which is sent to all users of the mediated literature search service. The study findings showed that 83.02% of respondents obtained new knowledge, while 46.23% of the respondent's confirmed clinical practice through the search service. The remaining 31% of the responses signify that choice of medications, tests and advice given to patients was influenced by the search service. Further, this study concluded that the librarians' searching capability can indirectly contribute to patients care activities. Haider and Ya (2021) has studied that the medical students information literacy skills and information-seeking behavior. Main objective of their study to assess the usage of library resources, to explore the library, understand the

learning and seeking behaviour of the medical students and their satisfaction level. A quantitative method was used in their study and the data was collected from the undergraduate students of medical colleges, Islamabad, Pakistan. Researchers gave the findings of this paper, that medical students can develop their IT skills. And the medical institution should be develop their traditional health education policy; funds allocating policy; health information literacy and collaborate with library staff for enhancing the services for the medical students. Abirami (2021) investigated the information-seeking behaviour of rheumatology students. This study concludes that rheumatology students seek information for their exam preparation. And these students are facing problems at the time of information seeking. So, this study suggested conducting seminars, conferences, and training programs so that would improve the information seeking and sharing skills for future students. Lai, C. L. (2020) has investigated the relationships between the online information searching experience and information judgements of university students. 583 university students have participated in this study. The researchers give the results of their study that the respondents would taken, into the both sophisticated and simple information evaluation standards while searching for information on the internet for their information needs. Moreover, online search was positively correlated to their searching strategy, matching.

### **OBJECTIVES**

The following objectives are used in this study  
To identify, what kind of information resources are used by pulmonologist.  
To know, how the pulmonologist obtain human, printed and electronic information resources.

To detect, how the pulmonologist use search methods and their satisfaction level of doctors with their searching skills.

### **SCOPE AND LIMITATION OF THE STUDY**

In this study, we examine information seeking and literature seeking skills among doctors. COVID affected mostly lungs that why we selected pulmonologist. This data were collected in 2022, how the doctor searching. One limitation of the study, the data is collected only from the state of Tamil Nadu, India.

### **METHODOLOGY**

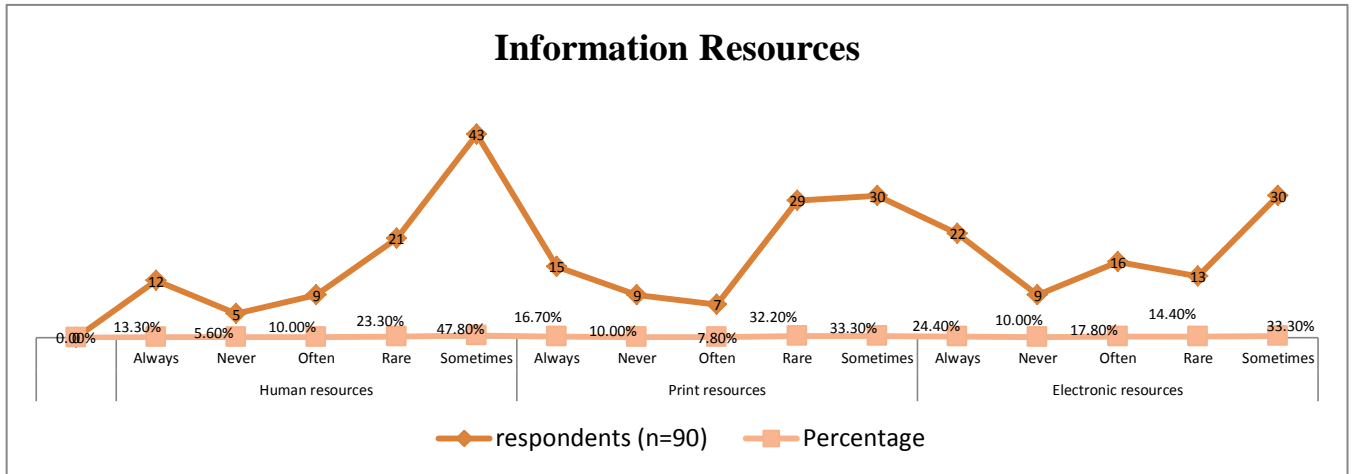
The survey was prepared using Google form and the questionnaire instrument used in this study. The survey was conducted through the online mode. The questionnaire consisted of 11 questions. The first two questions were demographical factors, one question was open-ended, three questions were multiple-choice, and the next five questions utilized a variation Likert scale. The questionnaire was distributed to the pulmonologist. We further promoted the survey through Whatsapp and Gmail. We have selected only volunteer doctors. The data were analysed using the SPSS software and tests such as frequency, correlation, and ANOVA was carried out in this study.

### **ANALYSIS AND INTERPRETATIONS OF DATA**

Out of 90 respondents, the number of female respondents is 56.7% (n=51), females are the prominent respondents in this survey. Most of the respondents belonged to the age group within the range of 20-25, i.e., 78.9% (n=71).

In this out of 90 respondents, 47.8% (n=43) of the respondents use human resources sometimes, 23.3% (n=21) of respondents use human resources rarely, 13.3% (n=12) of respondents always use human resources, 9 (10.0%) of

respondents use human resources often and 5.6% (n=5) never use human resources. Hence, the doctors used Human Resources sometimes for information seeking during the covid-19 ‘situation.’



**Figure 1: Frequency of different resources used for information seeking**

The above figure illustrates the frequency of various resources used for information seeking. Regarding the use of printed resources, the doctors 33.3% (n=30) use sometimes, 32.2% (n=29) of the respondent use print resources rarely, 16.7% (n=15) of the respondents use printed resources always, 10.0% (n=9) of the respondents use printed resources never and 7.8% (n=7) of the respondents often use printed resources for information seeking. Therefore, here, on the whole, printed resources are

sometimes used by doctors for their information needs.

Majority of 33.3% (n=30) respondents sometimes use electronic resources, 24.4% (n=22) of respondents always use electronic resources, 17.8% (n=16) of respondents often use electronic resources, and 14.4% (n=13) of respondents rarely use and 10.0% (n=9) of respondents have never used the electronic resources. According to the above-mentioned table, electronic resources are sometimes used by doctors.

**Table1: Relationship in the information-seeking of human, printed and electronic resources of the respondents**

Information Seeking	M	SD	Human Resources	Printed Resources	Electronic Resources
Human Resources	3.02	1.04	1	0.37**	0.44**
Printed Resources	2.88	1.21	0.37**	1	0.47**
Electronic Resources	3.30	1.27	0.44**	0.47**	1

\*\* - Significant at 0.01 level (2-tailed)

H<sub>0</sub>: There will be no significant relationship in the information-seeking of human, printed and electronic resources of the respondents.

There is a significant positive relationship between information seeking of human resources and print resources with the r-value of 0.37. There is a significant positive relationship between information seeking of human and electronic resources with the r-value of 0.44. There is a significant positive relationship between information seeking of printed and electronic resources with the r-value of 0.47. This association may be attributed to the easy accessibility of the human, printed and electronic resources during the Covid-19 pandemic for the pulmonologist.

The sources of human resources for the pulmonologist are seeking information from their colleagues, teaching staff, doctors and others. The majority of the participants i.e., 33.3% (n=30) have responded seeking information from their colleagues. The sources of printed resources for information seeking among the doctors are journals, newspapers, pamphlets, references and textbooks. Out of 90 respondents, the majority of the participants i.e., 37.8% (n=34) have responded using textbooks for information

seeking. The sources of electronic resources for information seeking among the doctors are Electronic Resources are using. The majority (n=44) 48.9% of the respondents were using online databases. We find the frequency of numerous uses these kinds of search methods such as the basic, advance and Boolean. In which, out of 90 participants, 36.7% (n=33) of the participants sometimes. Therefore, from this study, it is found that the majority of the pulmonologist sometimes use quick/basic search features during the pandemic period. 36.7% (n=33) of respondents make use of it sometimes. Hence, from this study, it is found that the majority of the pulmonologist sometimes use advanced search features during the pandemic period. 35.6% (n=32), of the participants responded that they rarely used the, 32.2% (n=29) of the participants responded that they always used the Boolean operator, Hence it was evident from this study that, the majority of the participants always used the Boolean operator for searching the literature on the web. 35.6% (n=32) of the pulmonologist sometimes used indexing browsing. Therefore, from the results, it was manifested that the majority of the participants often used Indexing browsing for searching the literature on the web.

**Table 2 : relationships in the information-seeking behaviour of search methods**

Method of Web-based Literature Search	M	SD	Quick	Advanced	Boolean	Indexing
Quick	3.35	1.22	1	0.52 <sup>**</sup>	0.19	0.24 <sup>*</sup>
Advanced	3.11	1.18	0.52 <sup>**</sup>	1	0.34 <sup>**</sup>	0.46 <sup>**</sup>
Boolean	2.14	1.08	0.19	0.34 <sup>**</sup>	1	0.54 <sup>**</sup>
Indexing	2.50	1.11	0.24 <sup>*</sup>	0.46 <sup>**</sup>	0.54 <sup>**</sup>	1

\*\* - Significant at 0.01 level (2-tailed)

H<sub>0</sub>: There will be no significant relationship among the methods of web-based literature

search such as quick, advanced, Boolean and indexing of the respondents.

The relationship of searching methods of quick, advanced, Boolean and indexing was checked by calculating the Pearson correlation coefficient (r). There is a significant positive relationship between searching methods quick and advanced with the r-value of 0.52. There is no significant relationship between searching methods of quick and Boolean with the r-value of 0.19. There is a significant positive relationship between searching methods of quick and Indexing with the

r-value of 0.24. There is a significant positive relationship between searching methods of advanced and Boolean with the r-value of 0.34, and also with advanced and Indexing with the r-value of 0.46. We found that about 17.8% of the doctors are very satisfied, 51.1% of the pulmonologist are satisfied and 31.1 of the pulmonologist are having neutral feelings on their information seeking and literature searching skills.

**Table 3 : ANOVA for the satisfaction level of searching skills**

Searching features	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	0.42	2	0.21	0.44	0.64
Within Groups	41.97	87	0.48		
Total	42.40	89			

There is no significant difference between the satisfaction level of searching skills and the age of the respondents.

There is no significant difference between the satisfaction level of searching skills and the age of the respondents. The p-value of the satisfaction level of searching skills was found to be above the 5% level, which is not significant. Hence the null hypothesis is accepted. It is concluded that there is no significant difference between the satisfaction level of searching skills and the age of the respondents.

### RECOMMENDATION

Considering the outcome of this study, the information-seeking and literature searching skills of doctors during the after third wave of the covid-19 pandemic, training sessions like conducting workshops and seminars could be arranged to improve these skills of the doctors. Further study can be conducted among specific

medical professionals such as neurosurgeons, ophthalmologists, psychiatrists, paediatricians, dentists, etc. and also can be conducted among medical students Clarke et al., (2013).

### FINDING AND CONCLUSIONS

Reflecting the outcomes of the study, the need to decide between human resources, electronic resources and printing resources is depending on the circumstances of the pulmonologist. In the 21<sup>st</sup> century, we have a lot of information resources to use. The human information resources are effective and easy to communicate and are easily available, so strong collaboration with others encourages the pulmonologist. Despite covid-19, doctors need to go to the hospitals to treat patients, whilst getting opportunities to communicate with their colleagues, superiors, etc., from which they can acquire the information for their information needs. Compared to Davies (2007) our results show that on the other hand, there is a decrease in the usage of human information resources, as the

pandemic condition renders a lack in the face-to-face communication and also due to the hectic schedule of the medical professionals, as the number of COVID cases were increasing day by day.

Printed information resources such as books and newspapers are the ultimate resources to get information, but nowadays most of us don't have time to change page after page to get information in this busy world. Libraries were closed and newspapers were not transportable, during this covid-19 pandemic situation which can be attributed to the reason for the result of using the printed resources only 'sometimes'. Electronic information resources are the ones that are easily available when compared to other information resources in this technological world. The findings of the study showed that doctors use these electronic resources for their information needs only 'sometimes'. Nylenna&Aasland (2000) results compared this present study shows that they have balanced information searching skills comprising of human, printed and electronic resources. The majority of the medical professionals sometimes use quick/basic, Advanced and Indexing and always and often used Boolean, indexing browser browsing search methods during the pandemic period. Respondents in this survey are pulmonologist; all of the respondents have shared their information-seeking behaviour and literature searching skills. Pulmonologist must make effort to seek their information and they should be cautious of their searching time, as so much unwanted data are also available. Hence, their literature searching skills have to be improved. Furthermore, searching skills are constantly improving. The doctors are satisfied with their searching skills.

The government should stop the spreading of fake news about COVID-19, it will help the doctors. The Libraries should help the pulmonologist for information seeking time. This would be helping to doctors improve their information seeking and literature search skills in future.

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