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INFORMATION NEEDS AND INFORMATION-SEEKING BEHAVIOUR OF BIOMEDICAL SCIENTISTS AT THE INSTITUTE FOR MEDICAL RESEARCH (IMR), MALAYSIA

BY
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ABSTRACT

Little attention has been focused on the information needs and seeking behaviour of health science professionals in developing countries, particularly Malaysia. Realising this deficiency, this study explored the information needs and information-seeking behaviour of biomedical scientists at the Institute for Medical Research (IMR), the oldest and leading medical research centre in Malaysia.

The survey method of questionnaire was used for data collection. A total of 84 questionnaires were distributed to the entire research and medical officers, working as biomedical scientists or/and lecturers at the IMR. Fifty-four filled-in questionnaires were returned with an overall response rate of 64.3%.

The findings indicated that biomedical scientists used a variety of information sources to satisfy their information needs. Journal articles were considered as the most preferred information source by those biomedical scientists who were solely involved in research work. On the other hand, researcher-cum-lecturers considered books as the most preferred information source in meeting their information needs. Both categories of scientists also considered interaction with colleagues as an important source in meeting their information needs. In terms of library collections, journal articles, books and indexing and abstracting sources were considered adequate by only one quarter of the respondents while other information sources were considered insufficient. The study also disclosed that a majority of the respondents showed their dissatisfaction over the adequacy of various types of library equipment.

The study revealed that in spite of having access to modern and up-to-date digital information sources, most respondents still preferred using printed materials. However, it was learnt that among the IT-based sources and facilities, CD-ROM was the most utilized. For the Internet-based information sources and applications, e-mail was the most popular while other applications were used less frequently. The study also found that over 70% of the biomedical scientists visited the IMR library at least once or twice a month with more frequent visits made by the male scientists. A majority of the respondents (81.1%) assessed the performance of the IMR librarians as "good" while none rated them as "poor". Female respondents gave more positive evaluation to their librarians compared to male respondents.

Another issue explored in this study was related to problems and difficulties encountered by respondents in getting the needed information from the IMR library. It was revealed that major difficulties faced by respondents were mainly due to unavailability of needed materials and outdated collections. Several recommendations have been made to further improve the performance and effectiveness of the IMR library.

ملخص البحث

هنالك انتباه ضئيل جدا وجه نحو حاجة وأسلوب البحث المعلوماتي بين علماء الصحة الاختصاصين في الدول النامية وبالأخص ماليزيا. إدراكا لهذا النقص، ارتادت هذه الدراسة الكشف عن الحاجة المعلوماتية وأسلوب البحث المعلوماتي لعلماء الطب البيولوجي في مركز البحث الطبي الذي يعتبر أقدم مركز يقود البحث في مجال الطب في ماليزيا.

اعتمدت هذه الدراسة أسلوب الاستبيان المسحي لجمع المعلومات. ووزع ٨٤ استبيانا على الموظفين من الأطباء والباحثين في مركز البحث الطبي. جمع ٥٤ استبيانا من أفراد العينة وكانت نسبة الإجابة ٦٤،٣ % . دلت النتائج على أن الأطباء استخدموا مصادر معلوماتية مختلفة لإشباع حاجتهم المعلوماتية. واعتبرت مقالات المجلات أفضل مصدر معلوماتي لدى الأطباء الباحثين. ومن ناحية أخرى، يعتبر الكتب عند الأساتذة الباحثين أفضل مصدر للحصول على المعلومات.

كلتا الطائفتين من العلماء اعتبروا أهمية الاحتكاك بالزملاء لإرضاء حاجتهم المعلوماتية. فيما يخص أدوات المكتبة، اعتبر الربع من أفراد العينة مقالات المجلات، والكتب، والفهارس، والملخصات مصادر مناسبة، وبقية المصادر ناقصة. وكشفت الدراسة أيضا أن غالبية المشاركين أبدوا عدم رضاهم بملائمة مختلف أدوات المكتبة. وأظهرت الدراسة أنه على رغم من وجود المدخل إلى أحدث وأطور المصادر المعلوماتية، ما زالت غالبية أفراد العينة يفضلون استخدام الأدوات المطبوعة. ومع ذلك، ظهر أن من بين المصادر وأدوات التقنية المعلوماتية، كان القرص أكثر استخداما. ومن حيث المصادر وأدوات المعلوماتية لـ "لإنترنت" ، كان البريد الإلكتروني أكثر استخداما على حين كان استخدام الأدوات الأخرى أقل. ووجدت الدراسة أيضا أن ٧٠ % من الأطباء، معظمهم من الذكور ، زاروا مكتبة

مركز البحث الطبي مرة أو مرتين في الشهر. ووصفت غالبية أفراد العينة (% ٨١،١) إنجاز المكتبيين في المركز بأنه جيد، ولا أحد قيمهم بالضعف. وأعطت الإناث المشاركات في الدراسة تقييما إيجابية للمكتبيين من الرجال المشاركين فيها.

وهناك موضوع آخر كشفت عنه الدراسة، وهو ما يتعلق بالصعوبات والمشاكل التي يواجهها مركز البحث الطبي. وجد أن الصعوبات التي واجهت أفراد العينة كانت بسبب عدم وجود أدوات محتاجة إليها مع وجود أخرى غير مرغوبة فيها. وقدمت الدراسة توصيات عديدة لتطوير إنجاز وفاعلية مكتبة البحث الطبي.

APPROVAL PAGE

I certify that I have read this study and that in my opinion it conforms to acceptable standard of scholarly presentation and is fully adequate in scope and quality as a thesis for a degree of Master of Library and Information Science.

Shaheen Majid
Supervisor

Date 27 July 2000

I certify that I have read this study and that in my opinion it conforms to acceptable standard of scholarly presentation and is fully adequate in scope and quality as a thesis for a degree of Master of Library and Information Science.

Yushiana Mansor
Second Reader

Date 28/07/00

This thesis was submitted to the Department of Library and Information Science and was accepted as partial fulfillment of the requirements for the degree of Master in Library and Information Science.

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Date 27th July 2000

This thesis was submitted to the Kuliyyah of Islamic Revealed Knowledge and Human Sciences and was accepted as a partial fulfillment of the requirements for the degree of Master in Library and Information Science.

Mohammad Aris B. Othman
Dean,
Kuliyyah of Islamic Revealed
Knowledge and Human Sciences

Date 29/7/2000

DECLARATION

I hereby declare that this thesis is a result of my own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references and a bibliography is appended.

Name: Salina Bt. Hj. Zawawi

Signature .....

Date 27th July, 2000

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DECLARATION OF COPYRIGHT AND AFFIRMATION OF FAIR USE OF UNPUBLISHED RESEARCH

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Affirmed by Salina Hj. Zawawi

Signature

27th July, 2000

Date

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In memory of my late bapa,

Allahyarham Hj. Zawawi B. Hj. Muhi,

who inspired me the importance of knowledge,

In gratitude to mak,

Hjh. Jaleha Taha,

who believes in every effort there is a wonderful success.

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CHAPTER 1

INTRODUCTION

The Importance of Information in Biomedical Research

Information is inevitable to almost all jobs and professions. Different working groups have different identifiable information needs, necessary to effectively meet the challenges of their working environment. Additionally, the need to become informed and knowledgeable workers leads to the process of "identifying information needs". However, this process alone cannot work without knowing the ways individuals articulate, search and express their information needs which is commonly known as "information–seeking behaviour".

For the last several decades, the question of what kind of information and through what channels individuals access it, has been greatly concern of many researchers. Many studies, as early as in the fifties, have notably contributed to the understanding of information needs and information-seeking behaviour of various working groups, particularly science and technology professionals. Allen (1977) conducted a ten-year study on the information consumption patterns and information flow in engineering research and development projects. In this study, he stressed the importance of communication within an organisation in order to understand the most effective means for the organisation to acquire information. In a review article on information seeking habits and practices of engineers, Pinelli (1991) observed that for meeting the information needs of user communities "information professionals must first understand the nature of user community". Meanwhile, Palmer (1991) found out that the important determinants of information behaviour for the biochemists, entomologists and statisticians at the English agricultural research station were placed

on the ways information was sought, gathered and organised as well as on the scientists' attitudes to information. Hence, according to Devadason and Lingam (1997), the understanding of information needs and information-seeking behaviour of various professional groups is essential as it helps in the planning, implementation and operation of information system and services in the given work settings. This is attributable to the distinct nature of various jobs and tasks in different working environments. Therefore, the working environment and type of task performed by individuals shape their information needs and the ways they acquire, select and use this information.

For biomedical scientists, the importance of information is irrefutable. Obviously, health science is a continually advancing discipline which witnesses the development of various medicines and break-throughs in the clinical control of various diseases. These advancements are basically due to research activities performed by biomedical scientists which in turn lead to the proliferation of medical information.

According to Stross and Harlan (1981), the dissemination of new medical information and incorporation of research findings into practice by health professionals are major challenges in the field of medicine. Consequently, the communication behaviour of health professionals has become a major area of concern to governments, agencies and individuals in the efforts to improve medical practice. Information is required to respond quickly and effectively to the challenges and complexities of the work environment. In a study undertaken by Stinson and Mueller (1980) on the information habits and needs of health professionals indicated that the health professionals used information to stay abreast of current advances in medicine. Additionally, Osiobe

(1985) reported that the large number of health professionals interviewed considered current and relevant medical information as "information dynamics" in the health science. Thus, information becomes an integrated element to support medical research, teaching and clinical services. Availability of accurate and current information help biomedical scientists to respond to research problems more promptly and confidently. Making information available to biomedical scientists is seen as one way of reducing chances of contacting diseases which are avoidable and will consequently save medical and health expenses of the public. In this regard, Creth (1993) commented that information professionals must articulate and act upon a vision of making adequate amount of information available to health professionals so that their information needs can be met effectively.

Hence, it is deemed important to investigate the information needs and information-seeking behaviour of professionals from the field of medicine in Malaysia. Furthermore, there are no studies that particularly focus on the information needs and information-seeking behaviour of biomedical scientists in the country. In this regard, this study will investigate the information needs and information-seeking behaviours of biomedical scientists working in the Institute for Medical Research (IMR).

Background of the Institution Studied

The Institute for Medical Research (IMR) is the oldest and leading biomedical research centre in Malaysia. It is the research arm of the Ministry of Health Malaysia and was established in 1900. It has a total strength of 560 staff members working in 5 departments namely tropical medicine, clinical pathology, community medicine, support services and administration. Each department has several divisions, which make up a total of 18 divisions.

Being the research arm of the Ministry of Health Malaysia, research programmes of the IMR have always been geared towards various priority areas of the Ministry in line with the health problems in Malaysia. The research findings of the IMR assist in the formulation, implementation and evaluation of programmes and activities for the diagnosis, prevention and control of major diseases in the country. The IMR also gives attention on generating basic knowledge on major diseases in which such knowledge is lacking (IMR, Annual Report, 1997).

The IMR has established close linkages with several international organisations. It was designated as Malaysia's SEAMEO (South East Asia Medical Organisation) National Centre for Tropical Medicine in August 1967. The mission of the centre is to promote co-operation among SEAMEO members and associate member countries through various activities such as post-graduate training, research and development, information dissemination in the field of tropical medicine and public health. In 1993, the centre was re-designated to SEAMEO TROPMED (Tropical Medicine) Regional Centre for microbiology, parasitology and entomology. It was in line with SEAMEO – TROPMED's strategic planning to allow the centre to respond more effectively to the

needs of the region and the organisation. In addition, the centre is continually extending its linkages with various local and international institutions to facilitate networking among the member countries.

The WHO (World Health Organisation) Regional Centre for Research and Training in Tropical Diseases and Nutrition (RTTD) was established at the IMR in 1978. The centre is supported by the WHO Western Pacific Regional Office (WPRO) and World Bank / WHO Special Programme for research and training in tropical diseases (TDR) as well as other donor agencies under bilateral agreement with WHO. The long term objective of the Regional Centre of the IMR is to develop improved methods for the control of major communicable and non-communicable diseases especially parasitic and nutritional diseases, prevailing in Malaysia and the Western Pacific Region as a whole. It is envisaged that the IMR serves as driving force and inspiration in collaborative research between its centres and other research institutes in the region (IMR, Annual Report, 1997).

Statement of the Problem

Among the science and technology disciplines, health science discipline is considered the most crucial as millions of lives depend on it. Health science research is a continuous activity investigating on new diseases and their remedies. Health science scientists also work tirelessly to develop new medicine and techniques to improve quality of life. Therefore, adequate understanding of information needs and information-seeking behaviour of biomedical scientists is necessary for proper planning and improving the collection and services of medical libraries. Without this knowledge, medical libraries cannot perform effectively whereby the utility and use of

library collections and services cannot meet the needs of their users. Realising this need, many studies on this topic have been conducted in developed countries. However, there is a dearth of such studies in developing countries, particularly in Malaysia. Very little is known about the information needs and seeking patterns of Malaysian medical professionals.

Appreciating this situation, this study will investigate the information needs and information-seeking behaviour of biomedical scientists working in the Institute for Medical Research (IMR), a leading medical research centre in Malaysia. The biomedical scientists of the IMR have been selected, as they are involved in the medical research compared to other groups of medical professionals such as medical practitioners in clinics and hospitals. These scientists carry out research on different aspects of medical sciences such as disease control and prevention as well as other pertinent health related issues and problems in the country (IMR, Annual Report, 1997). Hence, this study will focus on the information needs and information-seeking behaviour of biomedical scientists at the Institute for Medical Research (IMR).

Purpose of the Study

No reliable data is available addressing the information needs and information-seeking behaviour of biomedical scientists in Malaysia. Similarly, it is also not known how well medical libraries in the country are prepared to effectively meet the information needs of medical professionals. Specific objectives of the study are to:

(1) identify the information needs of biomedical scientists in the IMR

(2) investigate the methods used by biomedical scientists for seeking the needed information

(3) find out the adequacy of library collections, equipment and physical facilities at the IMR library for effectively meeting the information needs of its biomedical scientists

(4) ascertain the role of medical information professionals in meeting the information needs of the IMR biomedical scientists

(5) find out if there is any relationship between information needs and information seeking behaviour of the IMR biomedical scientists and their demographic characteristics

Research Questions

This study has been designed to answer the following research questions:

1. What types of information sources do the IMR biomedical scientists use for teaching and research purposes?

1. What methods are used by the IMR biomedical scientists in meeting their information needs?

2. How adequate are library collections, equipment and physical facilities of the IMR library in effectively meeting the information needs of its users?

3. How do the IMR biomedical scientists perceive the role of medical information professionals in meeting their information needs?

4. Is there any relationship between information needs and information-seeking behaviour of the IMR biomedical scientists and their demographic characteristics?

Significance of the Study

One of the primary goals of almost all libraries is to meet the information needs of its users. Libraries develop their collections, services and facilities to meet these information needs. An understanding about the information needs and information-seeking behaviour of scientists is essential to effectively support their research activities. As far as the information needs and information-seeking behaviour of biomedical scientists in developing countries are concerned, apparently very few studies have been conducted on this topic. Surprisingly, the review of literature showed that no such study has ever been conducted in Malaysia.

It is understandable that as the prominent medical research institute of the country, the IMR library has to develop adequate, relevant and up-to-date collections and provide appropriate information services to its users to support their research, teaching and other related activities. It becomes even more important keeping in view the current challenges of public health care and rapid advancements in medical technology. The situation, therefore, makes it vital that information should be made available to biomedical scientists to perform their duties effectively and efficiently.

It is expected that this study will provide adequate data on the information needs and information-seeking behaviour of IMR biomedical scientists. The results of the study will help reviewing the adequacy and appropriateness of collections and services at the IMR library. Knowledge gained through this study may be used by the library management for future planning to improve its performance and effectiveness.