

Implementing Information Literacy Programs in Romanian Medical Schools - Still a Major Challenge

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Abstract: Medical students in Romania do not benefit from a coherent and uniform training in the field of information literacy provided by the academic libraries. There are information literacy sessions taught by librarians at the beginning of the academic year but a small questionnaire-based survey conducted in Romanian medical academic libraries revealed there is no library involvement in the delivery of information literacy courses included in the curriculum, except for the information literacy course taught by the librarian to doctoral medical students in Cluj. Taking this course as a model, a national project has been designed, aiming to implement in other large medical schools modules of information literacy taught by librarians. This study analyses the situation in Romania and starting from the course taught in Cluj for medical doctoral students, proposes modules of information literacy for students from programmes at all levels in medical schools.

Keywords: information literacy, medical students, information literacy modules, Romania

1. Introduction

The role of academic libraries and librarians in user education has been acknowledged for many decades and, along with the various names it has had over time – bibliographical instruction, library instruction, instruction for library research, information literacy instruction, etc. – and the constantly expanding content, the importance of user education programmes has increased in the activity of the library.

Many academic libraries have recently implemented information literacy programmes in the context of the electronic information resources, in order to meet the needs of their user community, and significant progress was registered

in terms of users' preparedness to do research and search for information in general.

Information literacy programmes are important for students of all types of specializations and at all levels of education programmes—undergraduate, master, postgraduate and doctoral students.

In the world of medical academic libraries, things have been similar, with numerous initiatives and training programmes developed by libraries in different parts of the world. Medical academic libraries are in the position of meeting not only their users' needs regarding the research afferent to medical higher education, but also those regarding clinical research which, as Burton et al. note "(...) is very different to the research environments of higher education and consequently requires a different set of skills." (Burton et al., 2009: 427)

The Medical Library Association defines health information literacy as "the set of abilities needed to: recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; and analyze, understand, and use the information to make good health decisions." (The Medical Library Association, 2012)

The literature shows that students of all levels are not prepared to conduct independent high level research (Harris, 2011) and, in the medical field, "Information literacy and evidence-based practice are vital skills for students entering the health professions," as Brooks & Bigelow point out (Brooks and Bigelow, 2015: 332).

The amount of information, the large number of electronic resources available currently and the various modes of presentation and access thereof require the implementation of information literacy programmes.

The variety of user training approaches and methods used by libraries is wide, there being a series of aspects concerning the relationship between faculty and library, the organization of the latter and the human resources available that determine the type of instruction provided. But in general, these programmes aim to provide library users with advanced long-term skills for conducting independent research, and focus on research methodology, as well as on the methods and management of research projects. Harris mentions a series of library training models experimented by different libraries such as online tutorials, one-shot instruction sessions, course integration, credit-bearing research practice courses, personal librarian programmes etc. (Harris, 2011: 607), but she stresses that results were clearly superior in the case of a curriculum-integrated course.

Collaboration between faculty and librarians is perhaps the most important ingredient in the success of these information literacy programmes (Brooks and Bigelow, 2015; Harris, 2011) and faculty's awareness (Kloda, 2008) of the library's expertise in the development of research skills among students and the importance of librarians' involvement in the use of library resources is crucial. The literature mentions the positive results of these programmes among students: "(...) library and information literacy instruction results in greater confidence developed by students, higher standards applied to research materials, increased accuracy, and greater self-efficacy in information seeking." (Harris, 2011: 604)

Current educational strategies should intensify collaborations with libraries and integrate librarians as partners in the education and research process. According to Torras & Saetre, a main task of librarians should be "to facilitate students' learning process so that they become independent information searchers, managers, and producers." (Torras and Saetre, 2008: 2)

2. Current Situation of Medical Academic Libraries in Romania with regard to Information Literacy Programmes

In Romania, the situation is not very different from that of other European countries or the US, but there is a lack of vision, coherence and collaboration at a national level among medical academic libraries. Also, there are important differences among these libraries in terms of the quality and type of information literacy programmes they provide.

There are higher education programmes in the medical field offering the entire range of study programmes (undergraduate, master, postgraduate and doctoral programmes) in 12 university centres, but only six centres have universities of medicine and pharmacy (Bucharest, Cluj, Iași, Craiova, Timișoara, Târgu-Mureș). The others (Arad, Brașov, Constanța, Galați, Oradea, Sibiu) are medical schools within the existing universities. Thus, there are six medical academic libraries within the six universities of medicine and pharmacy, while in the other university centres, the existing academic libraries also include collections specialized in the biomedical field.

The only medical academic library in Romania involved in students' information literacy training and providing a structured course for the doctoral candidates is the medical library in Cluj (Robu, 2007).

Other doctoral programmes in medicine in Romania also include scientific research modules, but the library or the librarians are not involved in them. For example, within the doctoral programme of the "Carol Davila" University of Medicine and Pharmacy of Bucharest, first year students must attend a series of training modules, including one entitled *Scientific Research Methodology and Research Project Management*, but it is taught by members of the faculty, with no collaboration or involvement from the library. The module includes few

references to the library and its resources as tools of scientific research, and mentions some databases important in the medical field.

In 2012 (Madge and Mihăilescu, 2012) there was a proposal for the implementation of a compulsory information literacy course for the students of the “Carol Davila” University of Medicine and Pharmacy Bucharest, included in the curriculum and taught by the librarians or by the teaching staff of the Medical Informatics Department in collaboration with the librarians, but it has not moved forward.

The challenge of such a programme taught by librarians, in Bucharest and potentially in other university centres as well, is convincing the faculty of the advantages of involving the library in the programme, as well as of the benefits that librarians would bring to students’ research skills, considering their expertise in the field.

Cluj is the only example in Romania where the expertise of academic librarians is capitalized through the course included in the curriculum of the doctoral programme, which is taught by the librarian.

The example of the medical academic library in Cluj is singular. A number of factors have contributed to this special situation, but mainly that, until 2014, the library had a performance management system at Western European standards, as well as a leadership, a vision for its long-term development. Thus, the library became on par with reputable libraries in West European countries and even surpassed many libraries in the world in terms of information resources and services.

The quality of the library services and the performance management of this institution made the faculty understand the benefits of an information literacy programme taught by the librarian.

Thus, when the Doctoral School was formally established on new bases, in 2006, it was obvious for all the decision makers that the core mandatory subjects had to include a theoretical and especially practical course of Medical Documentation. It remained as such to this day, despite the many specialized courses introduced with time. This is a very good example of how the library has the power to influence important decisions of an academic institution. It takes, of course, constant effort for keeping up with current knowledge and an open attitude for the implementation of this kind of programme in the doctoral curriculum. No wonder that the Cluj University of Medicine and Pharmacy is considered the best medical higher education institution in the country.

Although the management of the Cluj Medical Academic Library changed starting with 2014, and, unfortunately, its activity has stagnated since, the Medical Documentation course continues to be taught by a librarian - the former

director of the library - which provided continuity and improvement of the student research skills.

In other medical libraries, approaches to information literacy programmes are varied and include short tutorials, one training session per semester, instruction on demand etc., but results of research at user level in large medical libraries in Romania indicated that the training sessions organized every semester by most libraries on the use of electronic information resources are not attended by many students and are not entirely helpful. Most students (93%) did not participate in any training session, 43% of the participants considering they needed assistance to access electronic materials, and most users (57%) learned to consult electronic information resources by themselves. (Porumbeanu, 2009: 154)

3. Results of the 2017 survey at the level of medical academic libraries in Romania

We conducted a questionnaire-based survey in Romanian medical academic libraries between January-March 2017 concerning the general situation of these info-documentary structures, recent changes and new trends in their activities (Madge and Robu, 2019). The questionnaire also included questions regarding the information literacy activities developed by libraries for their users. Besides the state of things at the Bucharest and Cluj libraries, with which the authors of this study are familiar, we wanted to get a sense of the situation in the other medical academic libraries in the country that were invited to participate. With the exception of one library, which closed four years ago, out of the 12 medical academic libraries in Romania, 8 libraries were invited to participate in this survey and we had positive answers from six (Bucharest, Cluj, Craiova, Iași Sibiu, and Târgu-Mureș).

The findings of the survey indicated that medical academic libraries in Romania are open and ready for change and for cooperation and they plan to focus in the next period on the development of digital services for users and a national online platform for resources in the biomedical field, the reconfiguration of their websites, more support for scholarly communication and provision of professional development for staff. (Madge and Robu, 2019).

Regarding the information literacy activities the answers received from the participating libraries indicate that currently, the situation varies among medical libraries in Romania. With the exception of the Cluj Medical Library, whose situation we know from the co-author of this paper, there is no library involvement in the delivery of information literacy courses included in the curriculum. There are no structured courses taught by the librarians. There are information and research courses for students included in the curriculum of study programmes, but they are taught by the university teaching staff. In most cases, there are information literacy sessions taught by librarians at the beginning of the academic year (but these sessions are mainly general presentations of the library and its resources, the rules of using the library and

the way the library is organized) and, in some cases, regular sessions throughout the year. Some libraries merely rely on the fact that there are librarians there at all times, who can help users in case of need.

These sessions focus on training users in accessing and using databases; in other cases, the sessions refer solely to new aspects related to electronic information resources.

The medical library directors who participated in this small survey commented themselves that this situation is caused by a lack of initiative and involvement from the library as well as the university, but also by a lack of generalized decision-making on a national level, applicable to all academic libraries, which could establish the role of libraries in student information literacy programmes.

4. Development of the project for the national implementation of information literacy courses for medical students

In Romania, as in other countries, students enrolled in doctoral or other programmes are of different ages, some of them resuming their studies after a hiatus. Thus, the information literacy programme must be designed so that it meets the needs of all types of students.

In order to improve the research skills of medical students enrolled in different programmes and, implicitly, those of future health professionals running clinical practices and consulting patients, we had the initiative of designing a nationwide project.

One important remark following the small survey presented above is that there is a high degree of confusion and misunderstanding concerning the concept of information literacy and the required scope of user education programmes, even among library staff. Many libraries focus solely on training users on how to access the electronic databases, whereas this should be only one part of such programme. Teaching research skills and preparing students of all levels for research in their field covers more aspects than accessing electronic information resources. Starting from this observation, we concluded that Romania needs a standard of information literacy for medical students, in the form of a national project bringing an integrated vision over the skills students should acquire and the phases of the learning and research process. The project would consist of an information literacy course, seen from discovery to evaluation, management and communication (Figure.1), presenting the contents of independent modules of an information literacy course which every library could implement.

The Medical Documentation course taught by the librarian at the Medical Doctoral School in Cluj was analysed and developed, and modules relevant at all levels were considered for inclusion in the project. The course in Cluj consists of eight modules, taught during eight lectures and 24 seminars. They cover database searching, bibliometric databases, citation and referencing,

plagiarism, evidenced-based medicine, reference management software (EndNote, Mendeley, Zotero), research data management.

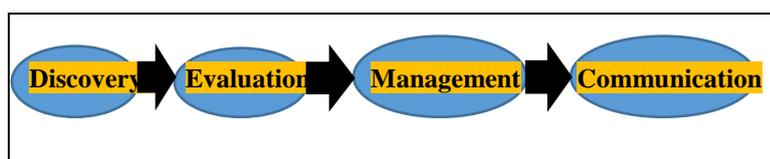


Figure 1 Phases of the learning and research process

We proposed a set of four areas—Research skills and techniques, Research methodology, Management of the research project, Communication skills (Figure 2)—that students should study by attending an information literacy course, and the contents of six independent modules of information literacy covering them. Every university together with its library can therefore select and implement the modules considered necessary in each case.

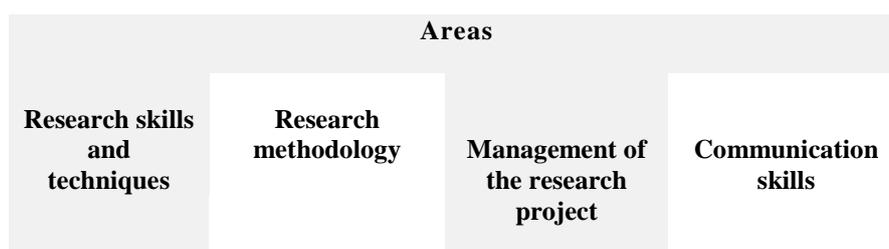


Figure 2 Areas

Below, we included a brief presentation and the main contents of the six modules mentioned above. For a more clear and structured view they are also illustrated by Figure 3.

Information Literacy Modules

Information search and retrieval

- Finding various forms of biomedical information (printed and electronic scientific information resources available in the medical library)
- Selecting relevant information resources
- Keywords, MeSH, index, thesaurus
- Formulating questions using controlled vocabulary and Boolean operators
- Searching biomedical information on the Internet, in bibliographic databases and other databases
- Accessing full text articles in specialized databases
- Retrieving references in PubMed/Medline, Embase
- Searching in Cochrane Library and other biomedical databases

- The "open access" concept

Scientific methodology

- Types of scientific articles
- Procedures of scientific reviewing
- Principles of scientific methodology
- Management of raw research data

Evaluation of scientific research (Scientometrics)

- ISI – Impact factor
- Scopus
- Google Scholar
- Altmetrics

Evidence-Based Medicine (EBM)

- Principles and application of evidence-based medicine;
- Retrieval of clinical "evidence" in databases. Databases specific for EBM

Specific Documentation

- Pharmacy
- Dental Medicine
- Nursing

Management of the research project & Communication skills

- Bibliographic citation – citation styles
- Plagiarism
- Reference management software (EndNote, Mendeley, Zotero)
- Writing a scientific article
- Making a presentation

MODULES	
Information search and retrieval	Finding various forms of biomedical information (printed and electronic scientific information resources available in the medical library) Selecting relevant information resources Keywords, MeSH, index, thesaurus Formulating questions using controlled vocabulary and Boolean operators Searching biomedical information on the Internet, in bibliographic databases and other databases Accessing full text articles in specialized databases Retrieving references in PubMed/Medline, Embase Searching in Cochrane Library and other biomedical databases The "open access" concept

Scientific methodology	Types of scientific articles Procedures of scientific reviewing Principles of scientific methodology Management of raw research data
Evaluation of scientific research -Scientometrics	ISI-Impact factor Scopus Google Scholar Altmetrics
Evidence-Based Medicine (EBM)	Principles and application of evidence-based medicine; Retrieval of clinical "evidence" in databases. Databases specific for EBM
Specific Documentation	Pharmacy Dental Medicine Nursing
Management of the research project & Communication skills	Bibliographic citation – citation styles Plagiarism Reference management software (EndNote, Mendeley, Zotero) Writing a scientific article, Making a presentation

Figure 3 Modules of information literacy

As shown by the results of our recent survey among medical academic libraries, Romanian libraries do not have an extended activity in the area of information literacy. An important role in the current situation is played by the local / internal circumstances of every medical university and the awareness of the decision factors regarding the importance of a structured course on information literacy, which could develop the students' ability to conduct advanced research independently.

The prospect of a national project changes the state of the matter, as it creates the premises for coherent and uniform training of students in this field.

Romanian medical librarians have always been open for collaboration with the faculty and are ready to take over a new role in teaching an information literacy course as per the example of the Medical Doctoral School in Cluj.

Moreover, librarians should be aware that, owing to increased pressure of the scientific community and current trends, academic staff, faculty members,

decision makers would readily embrace such a project, if assured of the high quality standards of the service delivery.

Actions are to be taken in order to present the proposal of the information literacy course, including the modules thereof, to the management of these universities and to discuss and achieve the actual implementation of the course in their curriculum at all levels.

The large medical academic libraries which we contacted have expressed their interest in participating in the project and implementing the modules in their institution.

5. Conclusions

Information literacy training has become an important part of the activity of academic libraries, the level of librarians' involvement in teaching these programmes varying significantly in accordance to the faculty's understanding of the librarians' relevant expertise.

In Romania, a successful model of an information literacy course taught by a librarian to doctoral students is offered by the Cluj Medical Library. Starting from this model, a national project has been developed, aiming to implement in other large medical schools modules of information literacy which could support students of all levels in their learning and research process by providing them with the required skills for conducting an independent research in their field of specialization.

Libraries invited to take part in this project expressed their enthusiasm about this exciting role, and are ready to start this new venture which implies a deeper involvement in students' learning and research experience.

The next steps in the implementation of this initiative are to be taken in the near future.

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