Qualitative and Quantitative Methods in Libraries (QQML) 8,3: 261-272, 2019

Lifelong Learning of the Profession of Librarian and Information Professional in Health Care in the Czech Republic

Helena Bouzková[1], Eva Lesenková[1], Richard Papík[2], Kateřina Žďárská[1]

[1] National Medical Library, Prague, Czech Republic
[2] Silesian University, Faculty of Philosophy and Science in Opava, Institute of the Czech Language and Library Science, Czech Republic

Abstract: The paper focuses on librarians and information professionals in health care within the context of lifelong learning. In 2017, a survey was conducted by questionnaire in 115 medical information institutions in which 160 respondents participated. The survey was focused on determining librarians' lifelong learning needs. The survey supported the basic hypothesis that the education of medical librarians must be complemented with specialisation not only with regard to medical specialties, but also with regard to knowledge of information technologies, basic economics, pedagogy, legislation, communication, statistics, and other subjects.
Based on the interpretation of the survey results, a lifelong professional educational programme concept, entitled Competencies of a Medical Librarian for the Performance of Library and Information Activities, was laid out. Two areas of the educational programme were defined:

a. Basic professional knowledge (theoretical) and skills (practical) related to library and information activities; and
b. Specific professional knowledge (theoretical) and skills (practical) related to healthcare.

The objective of specialised education in the area of medical libraries is to give professionals the theoretical knowledge, practical skills and experience necessary to perform work in a specialised library. The contribution will present the results of the statistical survey, the further educational needs that were determined, and the content of both areas of the educational programme in more detail.
Keywords: medical librarian; information professional; lifelong learning; Czech Republic; medical libraries; professional training, competence

1. Introduction

The development of Czech Republic libraries in the 2017–2020 period was significantly influenced by the "Concept for the Development of Libraries in the Czech Republic, 2017–2020". In this concept, attention is given to the

Received: 1.5.2019 Accepted: 13.9.2019 ISSN 2241-1925

development of lifelong learning for librarians and information professionals. The Ministry of Culture manages a register of libraries as a public-access information system. At present, more than 6,000 libraries are registered. In 2017, a total of 115 medical libraries were registered in the Czech Republic. The National Medical Library plays a primary role in the area of medicine and performs coordination, professional, information, educational, analytical, research, methodological and consulting activities.

In the Czech Republic, a medical library is meant to be a specialised public library whose mission is to acquire and organise quality and trustworthy traditional as well as electronic information sources. In addition, using modern services, it ensures access to archives and information sources and holdings for the professional and lay public and strengthens information support for the development of science and education in the area of medicine and related fields. A characteristic feature is its interdisciplinary approach, with both medical and library aspects interweaving and mutually influencing each other. With regard to the *terminology* of the profession of "medical librarian" or "librarian and information professional in health *care*", we state that the use of the latter, wider definition "librarian and information professional in health care" has been established in the Czech Republic. According to the European Association for Health Information and Libraries (EAHIL), which unites librarians and information professionals working in medical and health-science libraries, the term "medical librarian" is more common in Europe. The medical librarian acts at the junction of two specific and different disciplines, one of which is medicine and the other library and information science. If they wish to be a complete specialist in their field, simple library studies are insufficient; they must be educated in an interdisciplinary fashion and must broaden, complement and update their education through lifelong learning in selected areas of both disciplines, so as to understand the expert terminology and interconnectedness within the framework of the field. The intense technological development which has taken place over the past 20 years has resulted in changing the information related behaviour of users and their patterns of using various and information services.

Specialist librarians are capable of orientation in the medical area and have the knowledge and skills to purposefully use expert terminology. They need this knowledge to correctly perceive, identify *and* sort the needs, requirements and intentions of the expert user whose information needs they are trying to meet. They differ from traditional librarians by their broadened and specialised education. These specialists' job description is focused on searching for relevant sources and on helping expert and lay *users* search for information sources and flows. Searching for information is of primary and key importance for these specialised librarians and diametrically differentiates them from traditional librarians, who focus on working with users on a much more general level.

The submitted study focuses on the determination of the needs, attitudes, content, forms and organisation of lifelong learning for librarians and information professionals in health care and is based on the results of a statistical survey which focused on determining librarians' lifelong learning needs.

A basic hypothesis was defined that it is necessary for medical librarians to complement their library and information studies with a library specialisation related to medicine and with knowledge of the utilised technologies and of the basics of pedagogy, economics, legislation, communication theory, statistics, and other subjects.

2. Methodology

For the study, a qualitative content analysis of Czech and foreign materials and quantitative sociological research were carried out.

2.1 Literature Review

Through the content analysis, it was determined that the most important foreign experience was published by the U.S. Medical Library Association under the title "Medical Library Association Competencies for Lifelong Learning and Professional Success" (MLA, 2017). A. Lawton and J. Burns define ten core competencies for medical librarians which are common for librarian associations in Great Britain, Australia, Canada, Ireland, and the United States (Lawton and Burns, 2014).

Within the framework of the WHIPPET project (Working in the Health Information Profession: Perspectives, Experiences and Trends), which was funded by the European Association for Health Information and Libraries in 2013 from the University of Sheffield published a report (Sen, Villa and Chapman, 2014).

The Swiss author R. Mumentahaler (2017) published the results of a survey of study needs related to specific training. From among Czech sources, the published results of the national survey entitled "An Analysis of the Educational Structure of Librarians in the Czech Republic", conducted by the National Library of the Czech Republic (Richter, 2017), were analysed. Based on the aforementioned materials, questions were formulated for our survey related to the competencies of the medical librarian.

2.2 Quantitative Sociological Research

Analysis of the lifelong-learning needs of the medical librarian was conducted by means of quantitative sociological research in the form of a questionnaire survey in medical information institutions in the Czech Republic. The preparation of the questionnaire and the evaluation and interpretation of the results were performed at the National Medical Library in Prague by a team comprising expert librarians, a pedagogue, a sociologist, and a statistician.

Employees of 115 medical libraries in the Czech Republic's Public Information Services in Health Care network were contacted. Data collection took place from June 20 to July 28, 2017 in electronic form, and the statistical processing was done between October 2017 and January 2018. The statistical processing was carried out in the R programming language, in an environment designed for statistical data analysis, and in MS Excel.

The questionnaire was divided into three parts, with a total of 28 questions. The first part included initial identification data, the second part focused on the medical librarian's professional knowledge and skills and his/her educational needs in this regard, and the third part dealt with the attitudes of the medical librarian towards the profession and his/her motivation to learn.

3. Presentation and Analysis of Results

Out of 115 Czech medical libraries, 160 respondents (n=160), i.e. the full-time equivalent of 141 employees (52.6%), out of a total number of 268 employees (full-time equivalent) responded to the questionnaire.

Initial Identification Data

The cohort comprised 139 (87%) women and 21 (13%) men. A total of 13 (08%) were between 18 and 30 years of age, 24 (15%) were between 31 and 40 years of age, 31 (20%) were between 41 and 50 years of age, 63 (39%) were between 51 and 60 years of age, and 22 (14%) were over 60 years of age; 7 (04%) of the respondents did not disclose their age.

A total of 97 (60.6%) of the respondents had information studies and library). Of the total number of respondents, 86 (53.8%) had tertiary education and 74 (46.2%) had secondary education. A total of 127 (n=160) respondents (79.4%) work as specialist librarians. Of the total number of 160 respondents, 99 (62%) of the respondents have worked in a medical library for more than 10 years, while 112 (70%) of the respondents have worked in the library field for more than 10 years. A total of 105 (65.6%) of the respondents have an active command of English.

Competencies of Medical Librarians and Need to Be Educated in Them (Figure 1. Professional Knowledge and Skills, Figure 2. Specific Knowledge and Skills)

For the measurement of the expressed attitudes, a Likert scale of 1 to 5 was used where 1 meant the least and 5 meant the most.

- According to the respondents, their greatest educational needs with regard to professional knowledge and skills were the following: information search tactics (69%); foreign languages (64%); computer literacy (58%); library and information services (57%); and information and communication technologies (57%).

- They were the least interested in being educated in the principles of scientific publishing (30%); research methodology (26%); and personnel-related work (20%).
- According to the respondents, their greatest educational needs with regard to specific knowledge were the following: knowledge of expert medical terminology (51%); medical information technology (49%); medical classification (45%); and information behaviour of medical staff (38%).
- The least desired were statistical methods in medicine (21%); principles of ethical behaviour (25%); and basics of medical legislation (28%).

***Figure 1. Professional Knowledge and Skills*, Likert scale 4 (more) plus 5 (most), n=160**

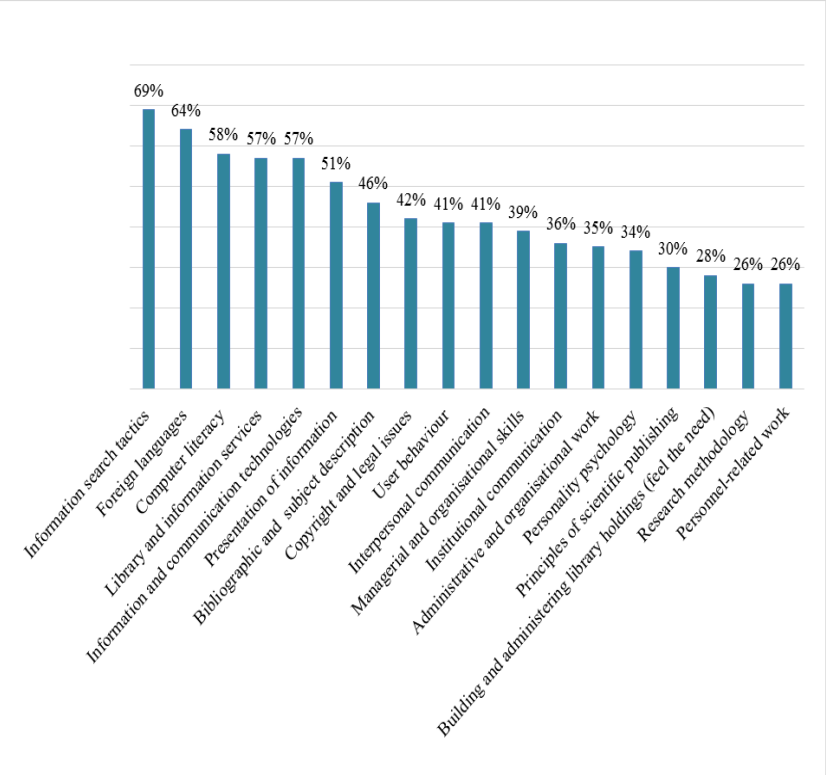
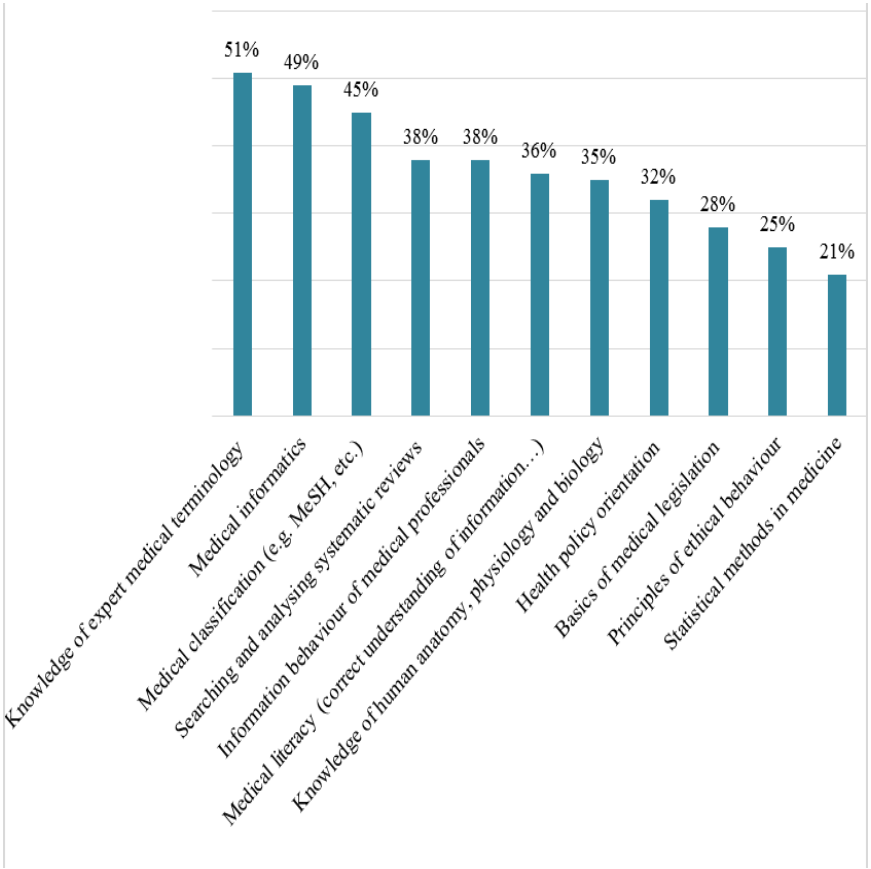


***Figure 2. Specific Knowledge and Skills*, Likert scale 4 (more) plus 5 (most), n=160**



Attitudes of the Medical Librarian towards the Profession and Educational Motivation

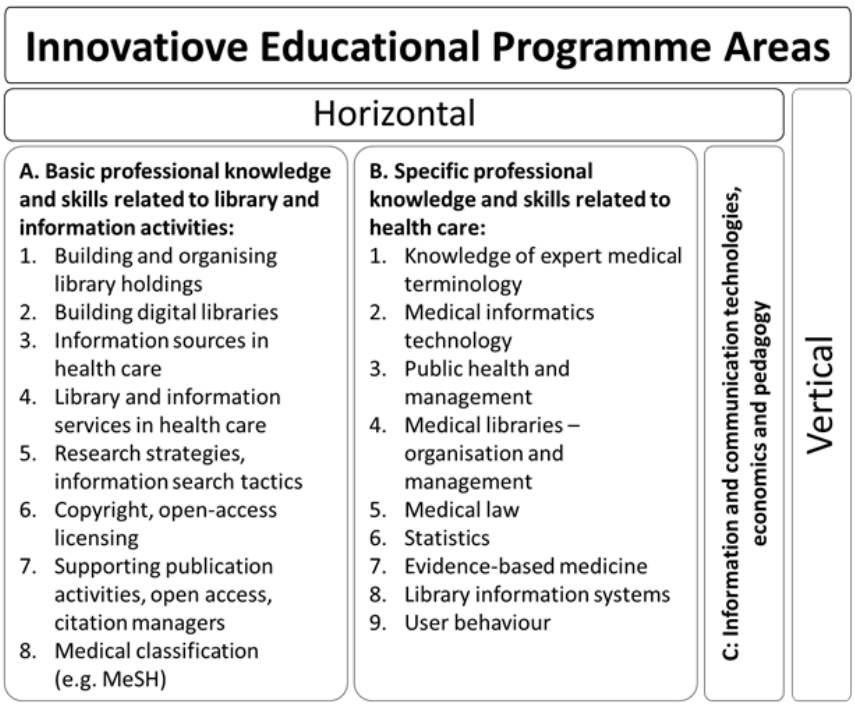
- Expert librarian education is considered necessary to perform the professional duties of the medical librarian by 115 respondents (72%);
- A total of 124 (77%) agree with the need to regularly update their knowledge and skills;
- A total of 111 (70%) agree with obtaining standardised certificates upon passing courses;
- Seminars and courses (one to three days) are a suitable form of education in 68 percent of cases, followed by consultations with colleagues (65%)

and seminars in the Czech Republic (59%). Online learning is suitable to only 40 percent of the respondents, 19 percent find conferences and seminars abroad suitable, and 18 percent find long-term courses suitable.

- The respondents consider the librarian's main mission to be the provision of library and information services, 137 respondents (85.6%,); the intermediation of new knowledge, 84 respondents (52.5%); and the increasing of users' information literacy, 69 respondents (43.1%).
- The main motivations for performing the professional duties of the medical librarian are the feeling of doing work that is necessary, 132 respondents (82.5%) and the possibility of self-fulfilment, 64 respondents (40%).

Based on the qualitative content analysis of literary resources and the results of sociological quantitative research conducted in the form of a questionnaire survey in medical information institutions in the Czech Republic, a lifelong professional educational programme concept, entitled Competencies of Medical Librarian, including basic and specific areas of an educational innovative programme have been formulated. The individual areas can be modular and can be used to create combined learning cycles.

Figure 3. **Concept of Innovative Educational Programme**



The proposed schema depicts the areas of the innovative educational programme. It is divided into a horizontal and a vertical axis. The horizontal axis includes basic professional knowledge and skills related to library and information activities (code A1–A8) and specific professional knowledge and skills related to health care (code B1–B9). The vertical axis depicts areas of intersection: information and communication technologies, economics, and pedagogy.

One can look at information-source searches using the following guidelines, which consist of several information-search stages - draft curriculum for the A5 learning module "Research Strategies, Information Search Tactics" .
These guidelines apply to the end user as well as to the services of a research specialist (PAPÍK, 2011):

- Analysis of information needs is re-formulated into an information (research) request and then into a research query; the user (or the research specialist) will clarify what exactly needs to be searched for;
- Selection of an information resource (e.g. database, digital library, aggregator, database centre);
- Research strategy (search approach particular to a given system), which can for instance combine the research strategies of building blocks, pearl-growing, and limits or filters;
- Result output of varying record (document) extent or format;
- Acquisition of the primary document, which can sometimes be done directly in databases, if it is a full-text document or if it is connected to a bibliography record (e.g. in PDF format), or there is often the possibility of linking the primary document with special technologies to which the institution has licenced access.

Interest in individual professional and specific knowledge and skills stemming from the questionnaire survey related to the areas of the Innovative Educational Programme is described in the Table 1.

Table 1. Interest in Individual Professional, Specific Knowledge and Skills

Professional and specific knowledge and skills	**Respondents' interest in education (%)**	**Competencies – topics (code)**
Information search tactics	69	A5
Library and information services	57	A4
Information and communication technologies	57	A2, B8, A3

Knowledge of expert medical terminology	51	B1
Presentation of information	51	A7
Medical informatics	49	B2
Bibliographic and subject description	46	A1
Medical classification (e.g. MeSH, etc.)	45	A8
Copyright and legal issues	42	A6
User behaviour	41	B9
Searching and analysing systematic reviews	38	B7
Health policy orientation	32	B3, B4, B5
Statistical methods in medicine	21	B6

The basic hypothesis that it is necessary for medical librarians to complement their library and information studies with a library specialisation related to medicine and with knowledge of the utilised technologies and of the basics of pedagogy, economics, legislation, communication theory, statistics, and other subjects through lifelong learning has been supported: 115 (72%) of the respondents were in agreement on it.

The survey results also support partial hypotheses that medical librarians respect the need for expert librarian education, 115 (72%);

- A total of 99 (62%) of the respondents agreed that the majority of librarians (more than 50%) are active in expert librarian positions (for more than 10 years); and
- A total of 125 (77%) of the respondents agreed with the need to regularly update their knowledge and skills.

In conclusion, the part of the questionnaire survey related to the expression of interest in professional and specific knowledge and skills and the need to be educated in them can be interpreted in the following manner:

- According to the respondents, their greatest educational needs with regard to professional and specific knowledge and skills were the

following: information search tactics (69%), foreign languages (64%), computer literacy (58%), library information services (57%), information and communication technologies (57%), knowledge of expert medical terminology (51%), medical informatics (49%), medical classification (45%), and information behaviour of medical professionals (38%).

- The lowest need to be educated was expressed for principles of scientific publishing (30%), research methodology (26%), statistical methods in medicine (21%), ethics (25%), and basics of medical legislation (28%).

The innovative educational programme creates an environment for the ongoing and systematic development of competencies (professional and specific knowledge and skills) of medical librarians in the Czech Republic.

4. Discussion

After the results of the survey were determined, a comparison with similar Czech and foreign surveys was done.

From the published results of the national survey entitled "An Analysis of the Educational Structure of Librarians in the Czech Republic" conducted by the National Library of the Czech Republic (RICHTER, 2017), it appears that whereas 40 percent of public librarians in the Czech Republic are university-educated, in 58 percent of cases, the librarian has held his/her position for more than 10 years, and 54 percent of public librarians have a command of English, the detected values for medical librarians are lower for all of these aforementioned parameters. A pre-requisite for quality performance of the professional duties of the medical librarian is a good knowledge of foreign languages and innovative special education in professional knowledge and skills related to health care.

Another useful source for discussion was foreign experience with the results of a British survey (SEN, 2014). Interest in areas of professional and specific knowledge and skills was compared. In agreement with the foreign sources, the greatest interest was in knowledge of sources, information literacy/search skills, knowledge of user needs, knowledge of medical terminology, IT skills, and customer service.

5. Summary

The results of the survey contained data that is a testament to the medical librarian and his/her attitudes; to the content, form and organisation of lifelong education; and to his/her profession. The expressed hypotheses were supported in the sense that medical librarians were aware of the need to regularly update their knowledge through lifelong education.

The questionnaire survey showed that the majority of librarians preferred a "face-to-face" form of education; that the librarian's main mission was to provide library and information services; and that the main motivation for performing the professional duties of the medical librarian was the feeling of doing necessary work and the possibility of self-fulfilment. The greatest need

for continuing education was felt in the area of information search tactics, whereas the respondents showed the lowest interest in learning about statistical methods in medicine.

The realisation of the Innovative Educational Programme concept assumes the creation of a system for the innovative education of librarians and the incorporation of pedagogical, technological and organisational aspects, and creates the possibility of determining a credit system in education.

References

Lawton, A. and Burns, J. (2014). Review of competencies needed for health librarians: a comparison of Irish and international practice. *Health Information & Libraries Journal*, 2014, **32**(2), 84-94. ISSN 1471-1834.

Medical Library Association Competencies for Lifelong Learning and Professional Success [online]. Medical Library Association: © 2017 [cit. 2019-04-27]. Dostupné z; http:// https://www.mlanet.org/page/test-competencies

Mumenthaler, R. (2017). Results of the survey on further education for medical librarians. *Journal of EAHIL*,13(1), 4-9.ISSN 1841-0715.

Papík, R. (2011). *Strategie vyhledávání informací a elektronické informační zdroje.*1.vyd. Praha: Velryba, 2011. 192 s. ISBN 978-80-85860-22-1

Richter,V and Pillerová,V. (2017). *Analýza věkové, vzdělanostní a mzdové struktury pracovníků knihoven v ČR 2016/2017: zpráva z průzkumu*. Praha: Národní knihovna.

Sen, B. A., Chapman, E. L., and Villa, R. (2014). Working in the Health Information Profession: Perspectives, Experiences, and Trends. Project WHIPPET. In: *iConference 2014 Proceedings*, p. 933-940.