

CONTINUED PROFESSIONAL DEVELOPMENT AND INTERNET TOOLS IN EDUCATION OF HEALTH WORKERS

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Abstract: The Objective of this paper was to describe the current status of continued professional development of healthcare workers in Serbia and knowledge of Internet tools being a support to their education. A cross-sectional descriptive study was applied utilizing an interviewer-administered questionnaire. The sample consisted of 201 health workers from two Serbian districts. Results show that 27 (13.4%) had no permanent Internet access. At Internet based continued medical education courses participated 45 (22.4%) health workers and only 10 (5.0%) used electronic services of Serbian Library Consortium for Coordinated Acquisition. In any time of their professional life 155 (77.1%) had never wrote any paper. There were 73 (36.3%) users of social Internet network, 33 (16.4%) were in contact with telemedicine, 14 (7.0%) heard something about distance e-health, 184 (91.5%) thought that has insufficient computer skills and 15 (7.5%) has no skills. Healthcare professionals in Serbia use mostly the scientific meetings for CME but without active participation. The research shows a great need for development of computer skills, Internet tools knowledge and inclusion in Serbian Library Consortium for Coordinated Acquisition.

1 INTRODUCTION

Serbian Medical Chamber (SMCh) was founded in 1901 when it had 46 members, disrupting its activities after II WW in 1945. In 2006 SMCh has resumed its existence with more than 27000 members. Until 2010 it wasn't obligatory to attend Continuing Medical Education (CME). This lack of obligation counted for The Chamber of Nurses and Health Technicians of Serbia, as well. CME keeps health workers updated with the new developments, treatment methods and approaches to health issues (Haruna, 2004). CME for health workers is a process in which the competencies of health workers continue to be maintained, improved and new ones acquired, following the completion of basic training. CME can be accessed through workshops, seminars,

clinical audits, formal lectures, multimedia programs, telemedicine, support supervision etc. With development of Internet tools, the accessibility to CME and the exchange of scientific health information became easier. This has essential importance for education and research and a direct impact on the development of a society (Kupryte, 2005).

Serbia is a country in transition, meaning that the national health reform is not yet finished. The Ministry of Science and Technological Development has made an important step forward in enabling researchers in diferent scientific fields, together with health workers, to approach the scientific information easily. It pays annual subscriptions for the most wanted scientific services and sources.

Since 2001, Serbian Library Consortium for Coordinated Acquisition named KoBSON exists in

Serbia as a member of Electronic Information for Libraries (eIFL.net), an umbrella organization. Nowadays, it is the best e-resource for quality scientific data in Serbia (Electronic Information for Libraries). Development of the eIFL.net started as a project whose underlying idea was that the exchange of ideas, knowledge, and information between scientists are the basic need for science and society development. In the 1990s, library development and modernization were very fast in the post-socialist countries of Central and Eastern Europe. The high subscription costs, along with little awareness of the electronic alternative to print subscriptions, prevented these countries from accessing most of international academic journals and databases. Creation of National Library consortia in member countries play a fundamental role in the coordination of access, promotion, training, fund raising, and payments for resources (Muula, 2004). At present, Serbia has a leading role in accessing and dissemination of scientific information in South Eastern Europe (Ballantyne, 2006), with 35000 scientific journals in electronic and print version (KoBSON). Serbian National Library held public educations about KoBSON services for institutes and researchers, but not for health workers in rural and distance urban areas.

Objective of this paper was to describe the current status of continued professional development of healthcare workers and the knowledge of Internet tools which could support their education.

2 MATERIALS AND METHODS

A cross-sectional descriptive study used an interviewer-administered questionnaire. The sample consisted of 201 health workers from urban zones in two Serbian districts (South Banat and Bor): 82 (40.8%) nurses and sanitary technicians, 24 (11.9%) nurses and sanitary technicians with college education and 95 (47.3%) medical doctors (Figure 1). Both districts are averagely developed with good coverage of Internet performances and availability.

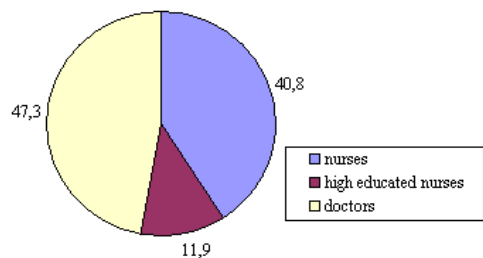


Figure 1: Percentage distribution of participants.

3 RESULTS

The study participants were from primary health care 70 (34.8%), secondary health care 125 (62.2%) and institute of public health 6 (3.0%). There were 69 (34.3%) workers in surgical departments, 32 (15.9%) from internal departments, 16 (8.0%) from pediatrics, 44 (21.9%) in preventive medicine and 40 (19.9%) other specialties.

Internet access at work had 48 (23.9%), at home 167 (83.1%), both at work and home 40 (19.9%), at the other place 4 (2.0%) and 27 (13.4%) had no permanent access. In some electronic continued medical education course participated 45 (22.4%) health workers, 125 (62.2%) searched Internet for work. Only 10 (5.0%) used KoBSON libraries electronic access (Figure 2), and from these 191 (95.0%) who didn't used it, 86 (42.8%) had not even heard about KoBSON (Figure 3). There were 95 (47.3%) in contact with medical news within the last 12 months: 16 (7.9%) wrote a professional article, 79 (39.3%) participated in scientific meeting, 13 (6.5%) solved tests of e-CME, and 11 (5.5%) had some other medical news access (Table 1).

During all of their professional life-time, only 2 (0.9%) have written a book, 6 (2.7%) had more than 5 scientific or professional papers, 49 (24.4%) wrote at least one paper for scientific meeting, but 155 (77.1%) had never written any paper (Figure 4).

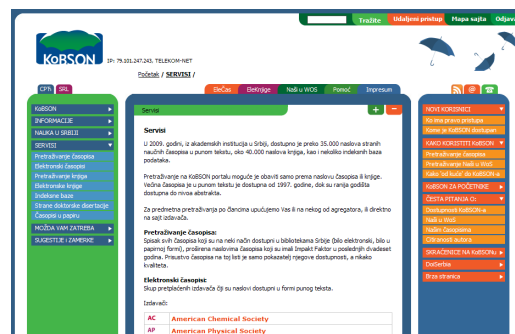


Figure 2: KoBSON Web portal.

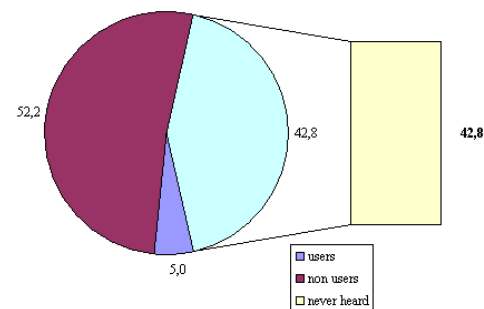


Figure 3: Percentage distribution of KoBSON users.

There were 73 (36.3%) users of social Internet network, and 33 (33.7%) of them used it at least once for business purpose. 33 (16.4%) were in contact with telemedicine, 14 (7.0%) heard something about distance e-health, 4 (2.0%) used interactive internet tools for education, 184 (91.5%) thought that has insufficient computer skills, 15 (7.5%) has no skills, 1 (0.5%) was good with computer and 1 (0.5%) excellent. Intention to create some kind of CME had 6(3.0%) participants, 19 (9.5) had intention, but had no experience, 45 (22.4) had intention, but didn't satisfy conditions. Participants state about needs for CME were that they need information about researches 41 (20.4%), diagnostics 66 (32.8%), therapy 60 (29.8%), guidelines 62 (30.8%), medical news 116 (57.7%) and other topics 10 (5.0%). There were 41 (20.4%) participants who prefer "traditional" presentation of CME, 11 (5.5%) on-line, 97 (48.3) both "traditional" and on-line and 50 (24.9%) didn't know what to choose.



Figure 4: Professional activity of participants.

4 DISCUSSION AND CONCLUSIONS

There are statistical significance differences between doctors and nurses in all questions except the use of social networks and interest to create a CME program. Doctors have more knowledge about computers and they are more included in CME activities, but not enough. The percentage in both groups is low counting the information about KoBSON, skills for writing a professional article, participating in scientific meetings, usage of telemedicine or some other internet tools in patient environment.

In countries under the eiFL.net, there are great differences in services they offer: some with a large variety of services, such as in Serbia, to those with a more informal structure where libraries were brought together for the single purpose of jointly licensing electronic journals. Undoubtedly, it is a

fact that the economic development of a country depends heavily on its scientific strength and ability to resolve problems in areas such as public health, infectious disease, environmental management and industrial progress (Kirsop, 2005), but precursor of development is computer literacy, which in Serbia is at a very low level in the working population. Internet resources offer possibility for a dramatic improvement in access to pertinent information, so Serbia and other developing countries could experience huge potential benefit, besides the rise in the overall quality of education in schools and universities (Brooks, 2005; Weller, 2005) Although English – Language Proficiency has not been analyzed, in this paper, but regarding the problems occurring at our CME workshops, this is one of key reasons why there are not more Serbian articles in medical journals.

Table 1: CME and Internet tools.

Question / Answer	Nurses (n)	Doctors (n)	χ^2	p
1. Did you access some CME program at Internet within last 12 months?				
yes	11	34	18.620	0.000 ^a
no	95	61		
2. Did you use Internet within last 12 months for business or education?				
yes	49	76	24.303	0.000 ^a
no	57	19		
3. Did you access KoBSON within last 12 months?				
yes	1	9	7.711	0.005 ^a
no	105	86		
4. Have you been in contact with professional health news within last 12 months?				
yes	31	64	27.247	0.000 ^a
no	70	30		
5. Have you ever written a professional article?				
yes	13	33	14.337	0.000 ^a
no	93	62		
6. Have you accessed one of social network within last 12 months?				
yes	37	36	0.194	0.660
no	69	55		
7. Have you used at least once a social network for business purposes?				
yes	12	21	5.570	0.018 ^a
no	40	25		
8. Have you ever used or watched a telemedicine?				
yes	6	11	2.262	0.132
no	100	84		
9. Have you used an interactive medical computer application within last 12 months?				
yes	4	11	4.420	0.035 ^a
no	102	84		
10. Do you think that you could create some CME program?				
yes	47	47	0.533	0.466
no	59	43		
11. Have you been informed about possibility of implementation of Internet technology in patient environment?				
yes	24	36	5.566	0.018 ^a
no	82	59		
12. Would you like to attend some CME program about Internet technologies applications in medicine and education?				
yes	52	61	4.951	0.026 ^a
no	54	34		

a. Statistical significance, $p < 0.05$

b. High statistical significance, $p < 0.01$

Healthcare professionals in Serbia use mostly the scientific meetings for CME but without active participation. A great need exists for computer skills development, Internet tools knowledge and inclusion in KoBSON libraries, offering a free access to medical journals for researchers and healthcare workers, which are now becoming more available due to the engagement of Serbian Ministry of Science and Technological Development. These CME programs have already achieved accreditation from Serbian Health Council and started successfully.

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