On-line seminars in the education of Warsaw Medical University students

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ABSTRACT

Introduction: The development of information technology enables us to use modern methods in the education process. Numerous universities have introduced e-learning, choosing one or more types of such form of teaching, including synchronized, asynchronized and complementary learning, as well as self-study.

Purpose: To present the opinions of obstetrics students on the effectiveness of e-learning vs. traditional methods and of on-line classes in general. We also focused on outlining the advantages and disadvantages of distance learning as well as the areas of obstetric education in which on-line seminars could be used.

Materials and methods: The project was executed in two stages. The first step was to familiarize the participants with distance learning and conducting synchronized on-line classes. The second stage was collecting data. The research tool was our own evaluation questionnaire, which included 13 questions: 8 closed and 5 open.

Results: Most respondents have a positive opinion about e-learning and would recommend it to other students. The advantage stated most often by students was the possibility to learn from home.

Conclusions: E-learning has many supporters and is believed to be equally or more effective than traditional educational methods.

On-line teaching can be used for many theoretical subjects in the field of medicine.

Key words: e-learning, on-line seminars, traditional methods

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INTRODUCTION

The third wave of civilization transformation – the information revolution - has been accompanied by the development of a network society. Knowledge has become a vital factor of a country's development – the ability to obtain information, to analyze, process, evaluate and use it. A PC, together with the Internet, is the symbol of present times. For this reason education has been undergoing constant changes. Colleges and universities emphasize educational methods and techniques using digital appliances, and many academic centers have offered distance learning opportunities. [1, 2]. The concept of distance learning, where a student and teacher are away from each other, dates back to the 18th c , when the first correspondence courses started to emerge. Later, with the development of technology, television and radio started being used. Nowadays, the role of data transmitter has been taken over by the Internet, triggering the development of e-learning. [3]. In Poland, distance education is treated as a form of support of the learning process. This approach is not consistent with European and worldwide trends. Considering the fact that the percentage of Internet users in Poland in the age groups of 15 - 19 and 20 – 24 years old is high (96% and 88%, respectively), it seems reasonable to include this means of data transmission among the main teaching methods. [4, 5]. Taking into consideration the place and the time of knowledge acquisition, one can distinguish four kinds of e-learning: synchronized, asynchronized, - complementary, and self-study. In a synchronized learning system, a student and teacher are in different places at the same time; they meet in a virtual classroom. Nowadays, there are a number of different video conference applications available. The majority of them enable showing presentations, real-time testing and communication with a student via ”chat”. Another useful solution is a whiteboard on which students and lecturers can write, draw or present drawings or graphs prepared earlier. Synchronized learning resembles traditional learning, with the exception that the two sides of the educational process are in different locations. The advantages of synchronized learning are the live interaction with a teacher, the ability to monitor student progress, and the introduction of learning materials in real-time. Asynchronized learning is education carried out at different times and places. Its main feature is the lack of real-time contact with a teacher. Contact is possible by means of e-mail and instant messengers. The advantages of this type of learning are the accessibility of learning materials during the whole course, the opportunity to choose the time and place to learn individually, at one's own pace. If an asynchronized course is set on an e-learning platform, it also gains the benefit of being easily updated with new data.

Complementary learning, also called blended or hybrid learning, combines the advantages of synchronized, asynchronized and traditional learning methods. It is based on traditional learning supported by e-learning methods. This model of learning is presently believed to be the most effective educational approach. Self-study is characterized by a complete lack of contact with a teacher. Teaching materials should be prepared carefully, for a teacher has no control over this type of education. The most popular type of self-study materials are e-textbooks or e-books available on learning platforms. This model of e-learning works well in teaching adults, as it requires more engagement and self-discipline from a student than other types of distance learning [6, 7].

Presently, the vocational education of obstetrics students is carried out in two phases (three years to attain a bachelor’s degree and two for a master’s). The educational process involves both theoretical and practical components. The theoretical part consists of the following sets of subjects: general education subjects, basic subjects, and vocational subjects. According to the Regulation of the Minister of Science and Higher Education concerning the standards of education for particular courses and levels of education, the required number of hours of theoretical classes for full-time studies of the 1st level is at least 1495, practical classes – 1100 hours, and vocational practice – 1200 hours [8] . The aim of this study was to present the opinions of obstetrics students on the effectiveness of e-learning vs. traditional methods and of on-line classes in general. We also focused on outlining the advantages and disadvantages of distance learning as well as the areas of obstetric education in which on-line seminars could be used. The level of satisfaction of e-learning students was also measured. The results constitute initial data on the subject in question. Our belief in the importance of the Internet for social life and its possible (but not fully exploited) use in the area of medical education motivated us to carry out a part of theoretical classes as e-learning. This study was an attempt to define the usefulness of synchronized learning via the Internet in the vocational training of midwives.

MATERIALS AND METHODS

The project was executed in two stages. The first step was to familiarize the participants with distant learning and conduct synchronized on-line classes. The application used for this purpose was clickmeeting.pl. It enabled the use of various

educational tools. Multimedia presentations, videos, audio files and questionnaires were used for presenting and checking knowledge. The classes were held from January to March 2012 by the lecturers of the Gynecology-Obstetrics Didactics Division of the Medical University of Warsaw. 35 meetings were held on-line. The subjects taught online were vocational ones: Basics of Obstetrics Care (for 1st year full-time students) and Research in Obstetrics (for 3rd year full-time students). Eight first year students and fifty third year students participated in the classes. The classes for 1st year students lasted 1 hour, for 3rd year – 2 hours and 15 minutes. The second stage was a pilot study in preparation for future, more elaborate research. Students were asked their opinion on e-learning. A questionnaire was conducted after the completion of the course. The authors of the study obtained each student's consent to conduct the research. The research tool was our own evaluation questionnaire, which included 13 questions: 8 closed and 5 open. The questions were grouped into five research areas. The first area concerned the method of conducting classes and the questions referred to the length of the on-line seminars, technical problems that arose during classes and suggestions for enhancing the application with additional functions. The second area of research referred to the advantages and disadvantages of webcasts. Open questions were used to allow the respondent to speak freely. Another researched issue was the students' opinions on the effectiveness of the teaching method offered to them. The participant's task was to compare it to the traditional method. Another issue was the choice of subjects which could be taught via Internet. Finally, student satisfaction with this type of learning was evaluated by asking them to assess the seminars and whether they would recommend this form of studying to other students. Research analysis was conducted with Microsoft Excel 2007, and the result were presented in percentage.

Research group profile

The choice of the research participants was intentional. The research group were the students of the Warsaw Medical University, Health Studies Department, major: Obstetrics. It included 1st year students attending classes on the Basics of obstetric care and 3rd year students, who took part in seminars on Research in Obstetrics. Our aim was to learn about the opinions of students who were starting their undergraduate education as well as those who have already completed the whole course of studies. All the third year students took part in the project, whereas from among the students of the first year who declared willingness to participate in on-line classes six groups were chosen. 84 persons (all women) answered the survey questions. The participants had access to the Internet and the skills to use e-learning software (acquired during previous training).

RESULTS

Answers to the question about the year of the program divided the respondents into two groups: first year students 32% (n=27) and third year students 68% (n=57).The length of the seminars differed according to the year of the program. 1st year classes were 1 hour long, 3rd year classes – 2 hours and 15 minutes. Opinions on the length of the seminars depending on the year of the program and length of classes are presented in table 1.

Table 1. Correlation between year of program and opinions on the length of classes.

Are you a student of:	In your opinion, the length of the seminars was:			Total
	Too long	Adequate	Too short	
1st year	n=2	n=24	n=1	n=27
	7%	89%	4 %	100%
3rd year	n=6	n=49	n=2	n=57
	11 %	86 %	3%	100%

Analysis of the responses to the question about the length of individual classes found that according to 57% of the respondents, classes should not be longer than 2 hours. The next group (38%) stated they should take up to 1 hour, and the remaining respondents (5%) selected the answer "up to 3 hours". The question "Were you able to focus on the content during classes?" was answered in the affirmative by 96% of participants, of whom: 19 (22%) answered "completely", 61 (73%) "most of the time", and 4 (5%) "only at times". Nobody answered in the negative. The results are presented in the figure below.

In the next questions, the participants were asked to indicate the most interesting didactic methods used during the on-line seminars. It was a multiple-choice question. The most interesting form turned out to be a multimedia presentation (84%, n=71). The second one was an online quiz (55%, n=46), then film (15%, n=13) and music (8%, n=7).

Analysis of the question "What is your opinion of on-line seminar as a form of teaching?" established that most participants have a positive approach to this form of teaching (95%, n=80): 55%, n=46 believe it to be very good; 40% , n=34 good; and 5%, n=4 had a negative opinion of this form of teaching (Fig. 2).

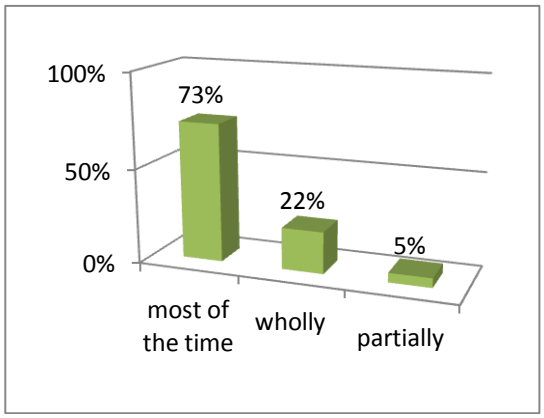

Fig. 1. Ability to focus during classes.

Fig. 2. What is your opinion of on-line seminar as a form of teaching?

Respondents were also asked to compare the effectiveness of e-learning with traditional methods of education. Half of them (n=43) decided they are equally effective, 30% of the participants (n= 24) believed on-line seminars to be more effective than traditional teaching methods, 12% (n=10) assessed this method as less effective, and 8% (n=7) didn't know (Fig. 3).

The question "Would you recommend on-line seminars as a form of theoretical learning to other students?" was answered in the affirmative by most students (85%, n=71), with 11%,(n=9) answering "I don't know", and 5 % (n=4) "no".

In response to the question "Did you experience any technical difficulties during classes?", 74% (n= 62) had not experienced any difficulties and only 26% (n=22) mentioned some.

Among the three most common problems were: sound problems, Internet connection breakdown and problems with logging into the program. The most commonly mentioned benefits of online seminars were: the possibility to take

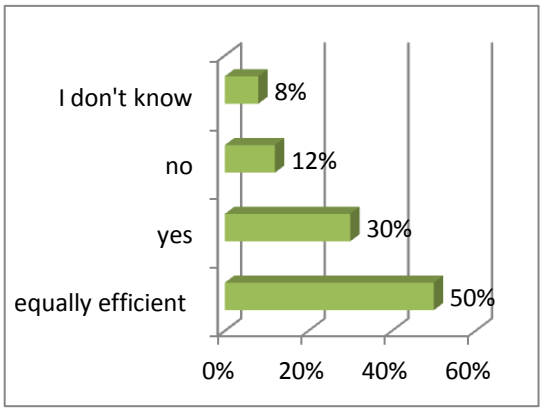

Fig. 3. Do you think e-learning is more effective than traditional education?

classes at home, comfort, and no need of going to the university campus. Among the most interesting answers were: fewer inhibitions regarding asking questions online, interesting form of classes, novelty, and the impression that the lecturer is talking only to the respondent (individualization).

Most respondents believed these classes have no disadvantages. There were, however, opinions mentioning technical problems, no visual contact with the lecturer and the late hours of the classes. The question "What subjects, in your opinion, can be taught on-line?" received a wide variety of answers. Most participants thought that among subjects which could be taught on-line were: psychology, public health, philosophy, law, didactics and all the subjects traditionally presented in the form of lectures. Students did not offer any ideas for enriching the on-line teaching program, as the classes fulfilled their expectations entirely.

DISCUSSION

Distant teaching has received many enthusiastic opinions from the students of Obstetrics at the Warsaw Medical University. Both first and third year students responded positively to this method of teaching (40% - good, 55% - very good). It could be assumed that the reason is the novelty of this form of teaching, which makes it interesting and motivating. However, the advantage the students mention most often is the comfort of studying from home, thus saving time and money that would be spent commuting to University.

Undoubtedly, both aspects are very significant for young people, whose schedule of traditional classes is extremely varied, also in the context of teaching sites forcing them to travel to different parts of the city in the same day, which can be quite burdensome. Moreover, according to students, on-line seminars make them less inhibited in asking questions, because the students do not see the teacher's and other students' immediate

reactions to their question, which makes them feel more anonymous and thus less ashamed.

On the other hand, some imperfections connected with the new technology are to be expected, such as Internet connection breakdown, sound disruptions or problems logging into the program. It is worth emphasizing, however, that such problems appeared rarely and only during the first classes.

The most important issue in e-learning is its effectiveness. Over half of the participants believe e-learning to be equally effective as traditional classes, and 30% think it is actually more efficient. Only 12% of respondents said this form of learning is less effective than traditional. According to I. Kula's and M. Plebańska's research on students' evaluations of the didactic effectiveness of e-learning, half of the participants believed the efficiency of e-learning to be equal to the traditional method. However, the number of students indicating higher (17.4%) and lower (36.2%) effectiveness of e-learning compared with traditional methods was different than in our study. [9]

Pereira et al. in their paper "Effectiveness of using blended learning strategies for teaching and learning human anatomy", researched the effectiveness of complementary teaching in teaching human anatomy and came to the conclusion that blended learning is much more effective than traditional methods. Other studies (Beeckman, 2008) describe a comparison of effectiveness of teaching nurses divided randomly into two groups. One group was taught in a traditional way, while the other used e-learning – both groups on the subject of bed-sore qualification. According to the authors, both groups were characterized by similar effects, however, e-learning gives students the opportunity to revise materials, which is essential in the process of learning. [10, 11]

E-learning is used in various areas of medicine. An example may be O'Leary's study (2011) presenting the use of distance learning for teaching pediatric CPR (cardio-pulmonary resuscitation). The study involved doctors and nurses, whose competences were evaluated before and after the interactive CPR course. The results indicated that the use of e-learning improved participants' knowledge and skills evaluated in a computer simulation. [12]

Introductory data from the conducted studies motivate us to continue our research to involve all levels of academic education of midwives in all theoretical subjects. We hope to start a discussion among academic teachers dealing with medical methodology.

Considering the specificity of teaching medicine, e-learning can never fully replace traditional teaching methods. There is, however, a wide range of subjects where teaching is based on lectures, which can be successfully replaced by on-line seminars. Traditional seminars and laboratory classes can also be divided into theoretical and practical parts, the first of which can be taught via the Internet.

CONCLUSIONS

1. Students perceive on-line seminars as an interesting, modern form of teaching.
2. Students believe e-learning to be equally or even more effective than traditional teaching.
3. Video conferences can be used in teaching any theoretical subject.
4. The effectiveness of on-line teaching is influenced by the use of varied multimedia instruction techniques as well as the length of the seminar.

Conflicts of interest

We declare that we have no conflicts of interest.

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