

DOI: 10.5281/zenodo.14576715

ORİJİNAL ARAŞTIRMA ORIGINAL RESEARCH

Massive Open Online Courses in Nursing: A Retrospective Descriptive Study

Hemşirelikte Kitlese Açık Çevrimiçi Kurslar: Retrospektif Tanımlayıcı Bir Çalışma

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ABSTRACT

Aim: Massive open online courses are easily accessible and flexible learning environments that facilitate continuous learning and knowledge updating in nursing education. These courses help nurses enhance their professional competencies and improve patient care by providing access to the latest research and clinical practices. The aim of this study is to examine the characteristics of existing massive open online courses related to nursing.

Method: In this retrospective descriptive study, online course websites were searched using the keyword "nursing." The search identified 694 courses on platforms such as Edx (n=12), Udemy (n=268), Coursera (n=64), Alison (n=25), Future Learn (n=57), Class Central (n=189), Mooc List (n=35), My Education Path (n=34), and Skill Share (n=10). Exclusion criteria were applied to eliminate duplicate, courses unrelated to nursing, courses in languages other than English, and expired courses. The final sample consisted of 149 courses. Data were collected between March and June 2023 using a 19-item data collection form and analyzed with IBM SPSS 25.

Results: It was found that 55% of the 149 courses scanned were free, 51.7% lasted 1-3 weeks and 71.1% had course syllabuses. Additionally, it was determined that only 8.1% of the courses were accredited, and 79.9% issued certificates to participants who completed them. Training materials were generally presented with the use of multiple materials (57%), and 53% of the courses were organized by universities. The field where the most courses were held was the field of nursing principles (32.9%).

Conclusion: The fact that most of the examined massive open online courses are organized by universities, registered, and free of charge can increase accessibility and continuous education opportunities for nurses.

Key Words: Massive Open Online Courses; nursing education; online education

ÖZET

Amaç: Kitlese açık çevrimiçi kurslar, hemşirelik eğitiminde sürekli öğrenme ve bilgi güncelleme süreçlerini kolaylaştıran, kolay erişilebilir ve esnek öğrenme ortamlarıdır. Bu kurslar, hemşirelerin en güncel araştırmalara ve klinik uygulamalara erişimlerini sağlayarak, mesleki yeterliliklerini artırmalarına ve hasta bakımını iyileştirmelerine yardımcı olmaktadır. Bu çalışmanın amacı, hemşirelikle ilgili var olan kitlese açık çevrimiçi kursların özelliklerini incelemektir.

Yöntem: Retrospektif tanımlayıcı yöntem kullanılan araştırmada, online eğitim veren kursların web sitelerinde "nursing" anahtar kelimesi ile tarama yapıldı. Tarama sonunda Edx (n=12), Udemy (n=268), Coursera (n=64), Alison (n=25), Future Learn (n=57), Class Central (n=189), Mooc List (n=35), My Education Path (n=34) ve Skill Share (n=10) platformlarında 694 kurs belirlendi. Dışlama kriterleri uygulanarak, tekrarlayan, hemşirelik bilimi ile ilgisi olmayan, İngilizce dışındaki dillerde olan ve süresi dolmuş kurslar elendi ve nihai örneklem 149 kurs olarak belirlendi. Veriler, Mart-Haziran 2023 tarihleri arasında 19 maddelik veri toplama formu kullanılarak toplandı ve IBM SPSS 25 programı ile analiz edildi.

Bulgular: Taranan 149 kursun %55'inin ücretsiz olduğu, %51,7'sinin 1-3 hafta sürdüğü ve %71,1'inin kurs izlencelerinin bulunduğu tespit edildi. Ayrıca, kursların yalnızca %8,1'inin akredite olduğu, %79,9'unun tamamlayan katılımcılara sertifika verdiği belirlendi. Eğitim materyalleri genellikle çoklu materyal kullanımı (%57) ile sunulmakta olup, kursların %53'ü üniversiteler tarafından organize edilmekteydi. En çok kurs düzenlenen alan ise hemşirelik esasları alanıydı (%32,9).

Sonuç: İncelenen kitlese açık çevrimiçi kursların çoğunun üniversiteler tarafından organize edilen, kayıtlı ve ücretsiz kurslar olması hemşirelerin erişimini ve sürekli eğitim fırsatlarını artırabilir.

Anahtar Kelimeler: Kitlese açık çevrimiçi kurslar; hemşirelik eğitimi; online eğitim

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Received:03/07/2024

Accepted:03/12/2024

Available online:31/12/2024

2979-9856/ISSN

INTRODUCTION

The relentless pace of technological advancement, rendering it indispensable in nearly every facet of life, has precipitated significant shifts in education and associated disciplines since the onset of the Covid-19 pandemic in 2019 (1-3). Therefore, changes have become inevitable across all educational tiers, from elementary school through to postgraduate studies. There is a significant transformation in the emergence of open source and distance learning culture, within educational paradigms. Especially amidst the pandemic, institutions, educators, and students worldwide have collectively fostered this culture by pivoting towards online education (4, 5).

Another crucial tool for providing education to the masses online is Massive Open Online Courses (MOOCs). MOOCs represent an educational model facilitated through the internet, enabling the widespread dissemination of knowledge to large groups without geographical constraints (6). MOOCs allow thousands of students to simultaneously engage in internet-based, virtual education. They can interact with instructors or fellow students via live chat, participate in online assessments, and utilize various educational materials, including visual and auditory resources (7).

MOOCs not only offer a novel approach to education but also present an advantageous model for continuous learning (8). With the increasing population of healthcare professionals, the ever-growing need to keep pace with scientific medical knowledge, and the improvement of patient care standards, all healthcare professionals have required a different and inclusive educational model to enhance the quality of care. Nurses should constantly refresh their knowledge and improve themselves due to the roles they undertake (9). Given the critical responsibility of patient care, it is vital for nurses, like all healthcare professionals, not only to receive quality education but also to keep their knowledge up-to-date and learn new care methods. Therefore, education in nursing does not end with graduation; nurses must continue learning just as they did in school. Hence, the utilization of innovative educational technologies in nursing is crucial to facilitate easier access to information (10). Therefore, MOOCs can facilitate the global dissemination of nursing knowledge. By integrating technology into education, nurses can benefit from more accessible, original, cost-effective, flexible, and distinctive learning environments, without spatial limitations, allowing them to access information more easily (11). The use of MOOCs in nursing education could create broader learning opportunities at both individual and institutional levels in the future. In particular, during this era of rapid technological advancements, MOOCs have the potential to significantly contribute to the continuous professional development of nurses and the enhancement of patient care standards.

Although there are studies discussing the contributions of MOOCs to nursing or what they may contribute to the future (12-16), research examining the descriptive characteristics of these tools is limited. The aim of this study is to examine the characteristics of Massive Open Online Courses related to nursing. In pursuit of this aim, the following questions will be addressed:

1. What are the general characteristics and features of MOOCs related to nursing?
2. What are the qualifications and roles of individuals and institutions that organize MOOCs in the field of nursing?
3. Which specific nursing science topics are most commonly addressed in MOOCs?

MATERIALS AND METHODS

Type of Research

A retrospective descriptive research method was employed in this study to analyze online nursing courses.

Research Sample

The study focused on websites that offer online nursing courses and have search capabilities. A keyword search for "nursing" was conducted on each platform, resulting in the identification of 694 courses. These courses were distributed across several platforms as follows: Edx (n=12), Udemy (n=268), Coursera (n=64), Alison (n=25), Future Learn (n=57), Class Central (n=189), Mooc List (n=35), My Education Path (n=34), and Skill Share (n=10). This formed the initial study population. After duplicates, non-nursing-related courses, courses in languages other than English, and discontinued or terminated courses were excluded, the final sample consisted of 149 courses.

Data Collection

Data for the study were collected between March and June 2023 using a 19-item data collection form developed by the researchers, based on relevant literature.

Data Analysis

The collected data were presented in numbers and percentages using the IBM SPSS 25 package program.

The Ethical Principles of the Research

Since the data for the research were collected from publicly accessible open sources, there was no need to obtain ethical approval from an ethics committee. All data were anonymized, and no personal information was collected to ensure compliance with ethical standards.

Strengths and Limitations of the Research:

One of the strengths of this study is the comprehensive dataset obtained through extensive searches across various online platforms offering nursing courses. The flexibility and accessibility provided by MOOCs (Massive Open Online Courses) in nursing education are also emphasized. The detailed analysis, using a 19-item data collection form, offers valuable insights into the quality and variety of these courses.

However, the study's focus on specific platforms may have excluded nursing courses offered elsewhere, potentially introducing sampling bias and limiting the generalizability of the findings. Additionally, by primarily focusing on English-language courses, the research may have missed important perspectives available in other languages, which reduces the overall comprehensiveness of the study. Despite its strengths, these limitations highlight the need for future research to include a broader range of platforms and languages to provide a more global perspective on online nursing education.

FINDINGS

The descriptive characteristics of 149 online nursing courses, as well as the features of the provided education and instructors, were presented in numbers and percentages in this section.

Table 1. Descriptive Findings of Courses

Course fee status	n	%
Free	82	55
Paid	67	45
Course duration		
1-3 week	77	51,7
4-6 week	45	30,2
7-9 week	8	5,4
10-12 week	1	0,7
No information available	18	12,1
Accreditation of the course by a recognized body		
Yes	12	8,1
No	46	30,9
No information available	91	61,1
Availability of the course syllabus		
Yes	106	71,1
No	34	22,8
No information available	9	6
Prerequisites for attending courses		
Yes	6	4
No	98	65,8
No information available	45	30,2
Exams/test/assignments in the courses		
Yes	62	41,6
No	40	26,8
No information available	47	31,5
Participant certificate at the end of the course		
Yes	119	79,9
No	23	15,4
No information available	7	4,7
Total	149	%100

Table 1 provides the general characteristics of the courses examined in the study. Accordingly, it was determined that 55% of the courses are free, 51.7% last for 1-3 weeks, only 8.1% are accredited, and 71.1% include a syllabus. Additionally, it was found that 65.8% of the courses have no prerequisites for participation, while 79.9% provide participants with a certificate upon completion of the course.

Table 2. Characteristics of the Education Provided with Courses

Education material provided		
Use of multiple materials*	85	57
Video demonstration	23	15,4
Slideshow presentation	14	9,4
Test	16	6,7
Role-playing	1	0,7
Training material information not specified	10	10,7
Level of education offered		
Beginner level	28	18,8
Medium level	11	7,4
Mixed level	4	2,7
Level not specified	106	71,1
Feedback ratings for post-education		
1 Point	1	0,7
2 Points	0	0
3 Points	9	6
4 Points	105	70,5
5 Points	6	4
Not rated	28	18,8
Status of recording the education		
Yes	137	91,9
No information was available	12	8,1
Are subtitle options available in training videos and materials?		
No	80	53,7
Yes	26	17,4
No information available	43	28,9
Total	149	%100

*More than two types of education materials used during the training.

**At the end of the training, it was evaluated out of maximum 5 point by the participants.

Table 2 provides insights into the characteristics of the education offered through the courses analyzed in the study. Regarding the educational material provided, 57% of the courses utilize multiple materials, followed by video demonstrations (15.4%) and slideshow presentations (9.4%). Tests are included in 6.7% of the courses, while role-playing is used in a single course (0.7%). However, in 10.7% of the cases, specific information about the training materials is not provided.

In terms of the level of education offered, most of the courses (71.1%) do not specify a particular level, while 18.8% are designed for beginners and 7.4% for intermediate learners. Post-education feedback is mostly positive, with 70.5% of participants rating the courses with the highest score of 4 points. Many courses (91.9%) are recorded for future reference, ensuring accessibility beyond the live sessions. Subtitle options are available in 17.4% of the training videos and materials, while 53.7% do not offer this feature. Overall, the table provides a comprehensive overview of the educational characteristics of the analyzed courses.

Table 3. Characteristics of Trainers

Organizers of the courses	n	%
University	79	53
Independent person	52	34,9
Association	18	12,1
Titles of the organizers of the courses		
Professor	28	18,8
Associated Professor	21	14,1
Doctor (PhD)	33	22,1
Master's degree	21	14,1
Bachelor's degree	36	24,2
Educator title not specified	10	6,7
Nursing departments related to the education provided by the courses		
Fundamentals of nursing	49	32,9
Internal medicine nursing	35	23,5
Public health nursing	27	18,1
Management in nursing	13	8,7
Surgical nursing	9	6
Psychiatric nursing	6	4
Obstetric nursing	5	3,4
Paediatric nursing	5	3,4
Interaction between the trainer and the trainee during the courses		
No interaction	82	55
There is interaction	67	45
Total	149	%100

In terms of the organizers of the courses, the majority (53%) are affiliated with universities, followed by independent individuals (34.9%) and associations (12.1%). The education provided by the courses mostly focuses on fundamentals of nursing (32.9%) and internal medicine nursing (23.5%). Interaction between trainers and trainees varies, with 45% having interaction and 55% having no interaction (Table 3).

DISCUSSION

In this section, the findings from the analysis of websites offering online nursing courses will be discussed in relation to the existing literature.

Research findings indicate that MOOCs can facilitate the continuous learning and knowledge updating processes for nurses. Specifically, the fact that a large portion of these courses are free makes them more accessible (17). The easy accessibility of MOOCs enables nurses to update their professional knowledge and learn new care methods (18, 19). The literature reports that the number, popularity, and accessibility of MOOCs have increased, especially during the Covid-19 Pandemic period (20). This increase is not only due to the growing demand for flexible education models but also because MOOCs provide unique opportunities for healthcare professionals to stay informed about rapidly evolving medical practices and technologies.

Furthermore, the asynchronous structure of MOOCs allows participants to engage with content at their convenience, overcoming the time constraints often faced by nurses due to their demanding work schedules. Additionally, the ability to access a diverse range of courses from global institutions fosters a richer learning environment, enabling nurses to gain insights from international best practices and varied perspectives in healthcare delivery (14, 21).

As in any research field, the data collection process is very important for researchers working in the field of education. In studies examining traditional educational methods, data collection requires a substantial workload (22). However, MOOCs can facilitate the data collection and analysis processes in studies examining educational processes. Research findings indicate that MOOCs allow for instant access to course programs, syllabi, and other educational materials. Additionally, since 91.9% of the courses are recorded, students could rewatch them (Table 1, Table 2, Table 3). This not only enhances individual learning experiences but also provides researchers with consistent and repeatable datasets for analysis, minimizing errors associated with manual data collection methods.

Moreover, MOOCs facilitate access to large participant groups in scientific research (23). While traditional classroom settings can reach a few hundred people at most simultaneously, MOOCs can reach thousands of people synchronously (24). This scalability enables researchers to study broader trends in educational engagement and effectiveness, offering insights that are difficult to obtain through traditional methods. The ability to analyze interactions within discussion forums, quiz results, and completion rates also adds depth to the research, enabling a more comprehensive understanding of learner behaviors and outcomes.

English is one of the most widely used languages in the fields of science, technology, and education worldwide (25). The choice of English as the language of instruction in the courses in this study is because English is accepted as the language of international communication. Therefore, the keywords of this research were also chosen in English to increase inclusion. Courses offered in this language can reach a wider international audience and attract more participants due to the widespread use of English. Having students from different parts of the world accessing the same courses also increases cultural heterogeneity. Interaction between students asking questions and actively participating in the course can help others to see the subject from different perspectives (26-28). This can increase the effectiveness of the courses. It can also facilitate access to information for participants from different countries. Furthermore, participants who do not speak English can also participate in the courses by providing subtitle options in different languages (Table 2).

Fundamentals of Nursing is a course that aims to focus on the concepts, theories, principles, and methods constituting the core and fundamental elements of nursing, and to teach the new nursing students the theoretical concepts such as critical thinking, ethics, and values (29). This field aims to equip students entering the nursing profession with the essential knowledge and skills they need (30). Findings indicate that the area with the most courses offered is nursing fundamentals (Table 3). There are several important reasons why there are so many courses in the field of nursing fundamentals. First, this course forms the foundation of nursing practice and provides the knowledge and skills necessary for nurses to be successful in their profession (31). Therefore, it can appeal to a wide range of participants, from beginner-level nursing students to more advanced nurses who wish to update their fundamental professional knowledge. This situation is expected to increase participation. Second, nursing fundamentals

courses are critical for new nurses (30). These courses can help nurses understand and effectively apply the basic care and interventions they will encounter in clinical practice. Additionally, nursing fundamentals provide a foundation for other advanced topics in nursing education. Solid knowledge and skills in this area play a significant role in the professional development of both students and professionals.

CONCLUSION AND RECOMMENDATIONS

The fact that most of the MOOCs examined were registered and free courses organized by universities could increase nurses' access and continuing education opportunities. It is thought that, as MOOCs develop, they may play an even more important role in improving the professional development of nurses and the quality of patient care in the future.

Future research should investigate ways to improve the features of MOOCs to make them more effective and accessible in nursing education. Additionally, it is important to explore how the qualifications of the individuals and institutions organizing MOOCs impact the quality of the courses offered. Lastly, attention should be given to identifying which areas of nursing science would benefit most from the development of MOOCs, and how these courses can be tailored to meet the educational needs in those fields. These recommendations aim to guide future studies in advancing the use of MOOCs in nursing education.

Funding: The authors received no financial support for the research and/or authorship of this article.

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