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Continuous learning through platforms**Formación continuada a través de plataformas**

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Abstract

The health crisis situation we have experienced caused by the SARS-CoV-2 virus has changed our daily life in numerous aspects, including those related to training (undergraduate, postgraduate, and continuing education, etc). Training activities, conferences, lectures, face-to-face workshops were suspended until the Health Situation was over. Alternatives to face-to-face training were needed to guarantee the continuity of these activities. Online training, teaching and evaluation emerged as a relatively fast, simple, operational and flexible solution.

Universities and faculties promoted online teaching through virtual classes. The Spanish Society of Hospital Pharmacy supported this initiative by signing an agreement with the Board of Deans and Chancellors of Pharmacy to make it possible for undergraduate students to continue their studies and supervised practices in hospital pharmacy departments.

Specialized training was affected. Pharmacy residency programs were significantly modified by hospital pharmacies to be able to provide the new clinical and research activities required, everyday, by the pandemic situation.

Postgraduate and residency training were also negatively affected. Again, online activities made up for restrictions to face-to-face teaching and training. The Spanish Society of Hospital Pharmacy promoted continuing education and provided updated information on the SARS-CoV-2 virus through its website. Thus, numerous virtual sessions, lectures and webinars have been held, and high-quality material was offered to provide up-to-date knowledge, on the pharmacological management of patients with COVID-19.

Online teaching and education has demonstrated to be an invaluable tool for hard times. During the lockdown, technology has kept us closer and has emerged as an ally. Many of us have found a new means of communi-

Resumen

La situación de crisis sanitaria que hemos vivido con motivo de la pandemia causada por el virus SARS-CoV-2 ha cambiado nuestro día a día en muchos aspectos, incluidos los relacionados con nuestra formación (de pregrado, especializada, continuada, etc.). Se suspendieron las actividades docentes, congresos, charlas y talleres presenciales hasta la resolución de la situación sanitaria. Era necesario buscar alternativas a la presencialidad que garantizaran la continuidad de estas actividades. La formación, docencia y evaluación en línea se presentaba como una solución relativamente rápida, sencilla, operativa y flexible.

Desde las universidades y facultades se promovía la docencia en remoto con material docente y clases virtuales. La Sociedad Española de Farmacia Hospitalaria ha facilitado esta iniciativa al firmar un convenio con la Conferencia de Decanos de Farmacia para que estudiantes matriculados en Prácticas tuteladas, y en formación en un servicio de farmacia hospitalaria, pudieran seguir con sus estudios de pregrado.

La formación especializada resultó afectada. Los planes de formación de los farmacéuticos internos residentes requirieron cambios importantes por la necesidad de dar respuesta desde los servicios de farmacia a las nuevas actividades asistenciales y de investigación que se producían, cada día de manera cambiante, en la situación de pandemia.

La formación continuada de los especialistas (y residentes) quedó también alterada. De nuevo, las actividades en línea permitieron salvar, en cierto grado, el déficit de actividades docentes y formativas. A través de su página web, la Sociedad Española de Farmacia Hospitalaria promovió la formación continuada y el seguimiento de la actualidad sobre la pandemia por el virus SARS-CoV-2; organizó sesiones virtuales, jornadas y talleres en formato webinar y proporcionó material de alta calidad que facilitaba el conocimiento, en tiempo real, de la gestión del tratamiento farmacológico en pacientes con COVID-19.

KEYWORDS

Training activities; Clinical pharmacist; Coronavirus; SARS-CoV-2; Pandemic; COVID-19.

PALABRAS CLAVE

Formación; Farmacéutico clínico; Coronavirus; SARS-CoV-2; Pandemia; COVID-19.



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cation, information, and training. The Spanish Society of Hospital Pharmacy has substantially contributed to make it possible.

Introduction

Challenges and objective

In only a few days, very few days, all of a sudden and without notice, the state of alarm was declared to respond to the public health crisis unleashed by the SARS-CoV-2 pandemic¹. Our everyday life suddenly changed. Our projects disappeared. Our social and family life was disrupted. Our work changed in form and content. Our meetings were cancelled... everything turned the same color, the same name: COVID-19, a novel disease caused by SARS-CoV-2.

Teaching and education activities did not elude the pandemic. Nursing schools, schools, universities, lectures, workshops, scientific congresses, and post-graduate courses were cancelled or postponed until further notice, and face-to-face education was suspended. The population was sent home, except for those working in essential services. As the state of alarm was successively extended, we realized that this situation would not be solved in the short term. New forms of training were necessary to guarantee that students of all levels, from primary school to PhD students, could continue their education and evaluations could be performed. This includes continuing education of pharmacy professionals.

Online training, teaching and evaluation emerged as a relatively rapid, simple, operational and flexible solution^{2,3}.

Strategies developed at different levels

Undergraduate training

The SARS-COV-2 pandemic forced the suspension of all face-to-face activities: lectures, practicals classes and internships. Online education emerged as the only way to continue the academic year in Pharmacy colleges with more or less difficulty. Universities and faculties promoted web-based learning. In a record time, the whole community, students and professors, had to learn how to use online learning platforms to keep in contact with each other. Remote learning included live streaming lectures, practical classes with small groups, projects uploaded on the online platform of the Faculty, presentations by teleconference, to name a few. Multiple and varied activities to ensure the acquisition of the knowledge and skills required to pass undergraduate courses.

The Spanish Society of Hospital Pharmacy (SEFH) took an active part in this initiative by signing an agreement with the Board of Deans and Chancellors of Pharmacy to make it possible for last-year students to continue their supervised practices and internships in hospital pharmacies through the online SEFH learning platform⁴. In the Schools where online learning and evaluation had not been available so far for practical classes and internships, this initiative has enabled students to acquire the knowledge and skills necessary to earn the practice credits required to complete their Degree in Pharmacy. In this program, students had to choose three of the eight courses available, including medical cases and practical workshops, with final online evaluations which students were required to pass.

In other Schools where online education and evaluation had already included in the curriculum, activity just continued. Evaluation based on written tests performed on an open online platform with a specific time limit posed a major challenge for professors and students, since it involved the implementation of new evaluation methods they were not familiar with⁵.

Post-graduate education/continuing education

Postgraduate education was hardly hit by the COVID-19 tsunami. Rotation schedules for interns were suspended, cancelled, restructured. Phar-

La aplicación de la docencia y formación en línea ha demostrado ser una herramienta imprescindible en tiempos complicados, como los vividos. Durante el confinamiento, la tecnología nos ha acercado y se ha convertido en la gran aliada. También ha supuesto el descubrimiento, para muchos de nosotros, de una nueva manera de comunicarnos, informarnos y formarnos. La Sociedad Española de Farmacia Hospitalaria ha colaborado de manera importante a que esto sea así.

macy services were required to join clinical and research teams in the first-line fight against COVID-19, which entailed organizational, logistic, and structural changes in these services. Hospital staffs were forced to reinvent themselves and cooperate in a flexible, well-structured and coordinated way. The COVID-19 pandemic has provided specialists and interns the opportunity to acquire abilities and skills usually misconceived as "soft" which are not included in the curriculum, such as humanity, flexibility, generosity, patience, responsibility, optimism, and empathy, to name a few.

During the pandemic, SEFH has provided scientific and professional information to pharmacy specialists, interns and members of the Society on its website. Through notifications to a mailing list, SEFH has informed its members of the numerous virtual initiatives launched to facilitate continuing education and has helped professionals to keep up to date on the SARS-CoV-2 pandemic.

Thus, SEFH has conducted webinars and virtual sessions in collaboration with other scientific societies and panels (Spanish Society of Immunology; GeSIDA; American Society of Clinical Oncology; etc.)⁶⁻¹² and communicated the contributions of task groups heavily involved in this crisis¹³. The virtual seminar organized by SEFH on "Innovation initiatives in Hospital Pharmacy during the COVID-19" deserves special mention. In this seminar, pharmacy professionals shared the initiatives undertaken in hospital pharmacies to respond to the health crisis in a timely and effective way¹⁴.

The continuously updated, high-quality information on antiviral therapies for Covid-19¹⁵ offered on our website has been very useful for and highly valued by hospital pharmacists, interns and specialists. The vast amount of information generated during these months, added to work overload, made it difficult that professionals could keep up to date on the latest studies on the treatment and management of patients with COVID-19. SEFH's initiative enabled professionals to retrieve and easily find scientific-technical information, with links to the most relevant articles published in high-impact journals. In addition, access was given to government publications, including technical documents of the Ministry of Health, press releases and communications of the Spanish Agency for Medicines and Medical Devices (AEMPS) and lists of ongoing clinical trials and observational studies.

It is worthy to mention the excellent work done by SEFH task groups, who shared relevant knowledge and documents through a mail list during the pandemic to facilitate the work of hospital pharmacists. As a way of illustration, information was provided on cleaning and disinfection to prevent COVID-19 infection¹⁶, key to the easing of lockdown measures and return to normality.

As a complement of basic continuing education, webinars on general issues have been held, including a webinar on how to teleconference with members of the same team or from different teams through virtual communication and platforms. This training will not be only useful for the COVID-19 pandemic, but also for the period afterwards, as online communication and information sharing tools have come to stay.

Lessons learned. Future applications in pharmacy services

Numerous lessons have been learned from the lockdown experience. Online training emerges as an excellent option that has come to stay. The numerous advantages of online learning make it indispensable as: (i) they provide training when face-to-face education is not possible; (ii) it provides time flexibility; (iii) it offers the possibility of choosing training programs based on previous knowledge, which

favors tailored specialized training; (iv) it facilitates work and family balance; (v) it provides access to courses organized by prestigious institutions sparing students the need to move to the place where they are located; (vi) it improves the acquisition of practical skills and competences by means of new technologies, simulators, 3D platforms, gamification, etc.

The applications of these techniques in the field of education are evident. The integration of online learning in ongoing education in

pharmacy services is no longer questionable. The enormous challenge posed by the pandemic may become an excellent opportunity in terms of communication, information and education. In addition, the lockdown has helped people engage in training and education activities. Technology brings us closer and has become a valuable ally.

Let's take advantage of the lessons learned and facilitate access to a more agile, rigorous, flexible, equitable, validated, multidisciplinary and work-family balanced training.

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