Medical education in crisis times: the experience of a dermatology interest group during the Covid-19 pandemic

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ABSTRACT

Background: The Covid-19 pandemic imposed a major challenge for universities around the world and required social distance due to the spread of the new coronavirus (Sars-Cov-2). Professors and students explored alternatives to continue university activities, including the adoption of Information and Communication Technologies and the expansion of the role of extracurricular activities. In this perspective, this article aimed to report the experience of The Dermatology Interest Group of the Federal University of Health Sciences of Porto Alegre (Liaderm - UFCSPA) during the Covid-19 pandemic and analyzed the importance of extracurricular activities and digital education as medical education tools. **Experience report:** During social isolation and suspension of classes, teaching, research and extension activities of Liaderm - UFCSPA needed to be adapted. The interest group in-person meetings started to take place as online meetings on videoconferencing platforms, such as Zoom® and Google Meet®, and consisted of theoretical classes and discussion of clinical cases. The group also held open classes for the academic community, such as a webinar on Surgical Dermatology, attended by medical students and other health students from all over the country. In addition, Liaderm organized activities to maintain the members' social engagement. One example is the manual with fundamental guidelines on dermatological injuries triggered by Personal Protective Equipment (PPE) on health care providers involved with the care of patients with Covid-19. **Conclusions:** During the pandemic, Liaderm maintained most of its activities using Information and Communication Technologies, such as video conferencing platforms. In addition, the participation of academics from different states of the country and abroad expanded the scope of the teaching activities. In this sense, the adaptations caused by the Covid-19 pandemic may have a long-term impact, both in the teaching models of medical schools and in the acknowledgment of extracurricular activities as a strategic educational resource for medical education.

Keywords: Covid-19, Medical education, Undergraduate medical education, Medical students, Telemedicine.

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INTRODUCTION

In December 2019, a new coronavirus strain (SARS-CoV-2) emerged in Wuhan, China, and it has mobilized countries and international organizations. The World Health Organization (WHO) named the disease Covid-19 and, on January 30, 2020, declared it a Public Health Emergency of International Concern(1–3). Since then, Covid-19 has spread over many countries and continents and has reached enormous proportion and impact.

The rising risk of transmission of the disease and the need to keep social distance in the classroom impacted universities, which had to suspend their traditional teaching activities, such as lectures and seminars(4–6). This situation challenged professors and students to keep their activities of study and research during a global pandemic.

In this perspective, Information and Communication Technology (ICT) has become a valuable educational tool that enables the interaction between professors and students with the use of digital technologies such as computers, the internet, applications, and smartphones to encourage the active and cooperative participation of the students(7). However, distance learning is not new and has been widespread since the beginning of the 21st century, mainly because of its advantages in adapting to the student's own time, place, and pace, the capacity of achieving regions distant from urban centers, and its multimedia resources(8).

In addition to ICT, extracurricular activities (EAs) also stood out. They enable more comprehensive professional training by using educational experiences outside the formal university curriculum(9). In medical schools, the students can develop EAs in outpatient care and hospital internships, scientific research, extension projects, and others(10,11).

Interest groups are student entities dedicated to specific topics. They stand out from the many other EAs because of the range of offered experiences, such as theoretical classes, courses, symposia, and extension and research projects(10–12). Therefore, these associations promote the students' autonomy, proactivity, and social consciousness(10,11), essential features of the teaching and learning process, especially during the Covid-19 pandemic.

This article aims to report the experiences in a dermatology interest group during the Covid-19 pandemic by analyzing the importance of extracurricular activities and digital education in medical schools, especially in the current scenario.

EXPERIENCE REPORT

Dermatology Interest Group

The Dermatology Interest Group of the Federal University of Health Sciences of Porto Alegre (Liaderm - UFCSPA) was created in 2014 as an extension project that aims to contribute to dermatology teaching in medical course. This entity seeks to approach students interested in dermatology with the specialty content and practice by using academic activities based on education, research, and extension.

Liaderm admits new students in an annual process. The evaluation of candidates considers participation in extracurricular activities, technological skills, and interest in the specialty. Veteran members of the group conduct the interviews. The selection process allows the admission of students from the medical course of any higher education institution and students from other health courses of UFCSPA.

In 2020, 17 students were part of Liaderm - UFCSPA, 15 medical students of four different universities and two nursing students of UFCSPA. A professor from the Dermatology Department of UFCSPA and a dermatology resident from UFCSPA-Santa Casa conducted the activities.

Group activities before the pandemic

The group members and coordinator used to have in-person scientific meetings. The meetings occurred once every two weeks, on Tuesdays, in a university classroom, lasting one hour and a half.

The classes and discussions used the students' presentations about dermatology clinical cases, more commonly in the medical field, as a base. After the presentation, the group conducted a theoretical review of the presented dermatosis. During the session, the participants formulated and discussed diagnostic hypotheses with the group coordinator. In addition, the group also held complimentary in-person meetings open to the academic community, such as classes taught by UFCSPA dermatologists or guests.

The research activities usually occurred in partnership with the Dermatology Service of Santa Casa de Misericordia of Porto Alegre/ UFCSPA

under the orientation of the Liaderm coordinator. In December 2019, part of the members applied the *Children's Dermatology Life Quality Index (CDLQI)* questionnaires, which evaluate the life quality of patients with skin diseases. Furthermore, the students were invited to participate in studies of clinical cases under the instruction of dermatologists and residents from Santa Casa de Misericordia of Porto Alegre/UFCSPA, enabling their integration and participation in Dermatology events and congresses.

The group developed community extension initiatives such as open events, and projects targeting specific populations. The support group for patients with atopic dermatitis ('*DermAlegria*') was one of the extension activities. The monthly meetings consisted of conversations between parents and pediatric patients with atopic dermatitis regarding their personal experience with the disease. Some initiatives occurred annually, such as the event '*UFCSPA Acolhe*' in May, in which the university opened its doors to present its courses, structure, and extension activities to the community. For this event, Liaderm organized workshops and training regarding relevant situations in dermatological practice. In 2019, the training theme was corrective self makeup for people with stigmatized skin conditions, such as vitiligo.

Figure 1 UFCSPA Dermatology Interest Group logo.

In addition, every year, the group members participate in the national campaign "Orange December" for preventing skin cancer, conducted by the Brazilian Society of Dermatology.

Group activities during the Covid-19 pandemic

On March 16, 2020, UFCSPA suspended the academic calendar and extracurricular activities due to the need of containing the pandemic and to guarantee the safety of the students. In this scenario, the members of Liaderm decided to maintain the activities and meetings online, keeping their involvement with dermatology content.

Online classes in video conferencing platforms

The impossibility of doing in-person activities due to social distancing required new solutions to maintain the group activities. The chosen alternative was online meetings using video conferencing platforms such as Zoom™ and Google Meet™.

The weekly meetings had a duration of two hours. The meetings were based on clinical studies and theoretical classes conducted by guest dermatologists and dermatology residents from Santa Casa de Misericordia of Porto Alegre /UFCSPA. The adherence of the group members was very significant due to the convenience of online meetings.

In addition to the internal meetings, Liaderm organized open classes for the academic community. Among the open activities, we highlight the online class named Introduction to Dermatologic Surgery, taught by the dermatologist Dr. Wagner Bertolini, in July 2020 - Figure 2. There were 137 students from different states of Brazil and another country (Argentina) - Chart 1. They were mainly from the medical course (126 participants), but also the nursing (5 participants) and physical therapy (1 participant) courses.

Most students found out about the online class on social media, such as Instagram™ (97 participants) and Whatsapp™ (8 participants), others heard about it from a friend (15 participants), and others learned about it through other types of communication (17 participants).

Manual 'Dermatoses Ocupacionais e COVID-19'

During the pandemic, scientific publications emerged highlighting the importance of dermatologic conditions in Covid-19 for their direct effects, such as secondary skin lesions, and indirect effects because of the use of Personal Protective Equipment (PPE) and recurrent hygiene.

For health care providers, this is a significant dermatologic concern. The use of PPEs for long periods for working causes skin lesions and/or aggravates preexisting skin diseases. For this purpose, to provide guidelines and explanations to these professionals, Liaderm members, coordinator professor of UFCSPA, and tutor dermatology residents elaborated a manual intitled *'Dermatoses Ocupacionais e COVID-19'* (Figure 2).

The manual approaches dermatologic lesions caused by PPEs in different body parts, such as hands, eyes, face, scalp, body, and mouth. The group conducted the study on lesions in the mouth in collaboration with dentistry professors from the Pontifical Catholic University of Rio Grande do Sul.

The manual was submitted to the editorial process of '*Editora da UFCSPA'*, being published in early 2021, as part of the '*Ciência, Humanidades e Covid-19'* collection. The work is available for free download on the *Editora*'s website(13).

Impact of Covid-19 pandemic in Liaderm activities

Covid-19 deeply impacted some Liaderm activities. Scientific presentations, dermatology congresses, and extensions activities were canceled or conducted online due to social distancing. The pandemics did not affect research projects that finished data collection in 2019 because they were in the analysis and writing process.

DISCUSSION

The impact of Covid-19 in dermatology teaching: the role of technology as an educational alternative

In most schools, dermatology teaching devotes few hours and limited exposure to practical lessons. This impacts the knowledge and skills on dermatology of general and other specialties practitioners(14,15). Considering the responsibility of the institutions to ensure adequate medical training for the students, dermatology interest groups represent a relevant alternative to learn the content and practice of the specialty(14). These entities contribute to the students learning through valuable experiences by approaching topics, such as semiology, diagnosis, skin diseases treatment, which significantly affect clinical conditions(16).

In face of the Covid-19 pandemic, medical students experienced an atypical and unprecedented context. According to the Brazilian Association of Medical Education (ABEM), in April 2020, 97% of medical schools had suspended their academic activities due to the pandemic(17). Similar to the university activities, outpatient care and hospital activities were severely impacted and had their workload reduced or even suspended(5).

This scenario affected dermatology services, which had significant demand reduction, and access restricted to patients with severe clinical conditions. This resulted in losses in health care and education(18). In this context, online dermatology teaching has become an educational and strategic resource that ensures the teaching and learning process due to the social distancing period imposed by Covid-19 and the suspension of university activities and practices(4).

Information and Communication Technologies (ICTs) have become highly relevant in medical practice and education. The concept of telemedicine emerges from this perspective. The World Health Organization defines telemedicine as the use of ICTs as a resource to exchange information for diagnoses, therapy, prevention, research and evaluation, and also the education of health care providers(19). Telemedicine can be divided into two main types: tele-health care, which offers medical support online for patients, and tele-education, or distance learning, which allows medical teaching through videoconferences, discussions of clinical cases, theoretical online classes, among other options(20).

Distance learning has spread widely in many academic levels of dermatology teaching, such as undergraduate programs(21), permanent education(22), and medical residency programs(23).

Figure 2 UFCSPA Dermatology Interest Group open online class taught by Dr. Wagner Bertolini – July/2020.

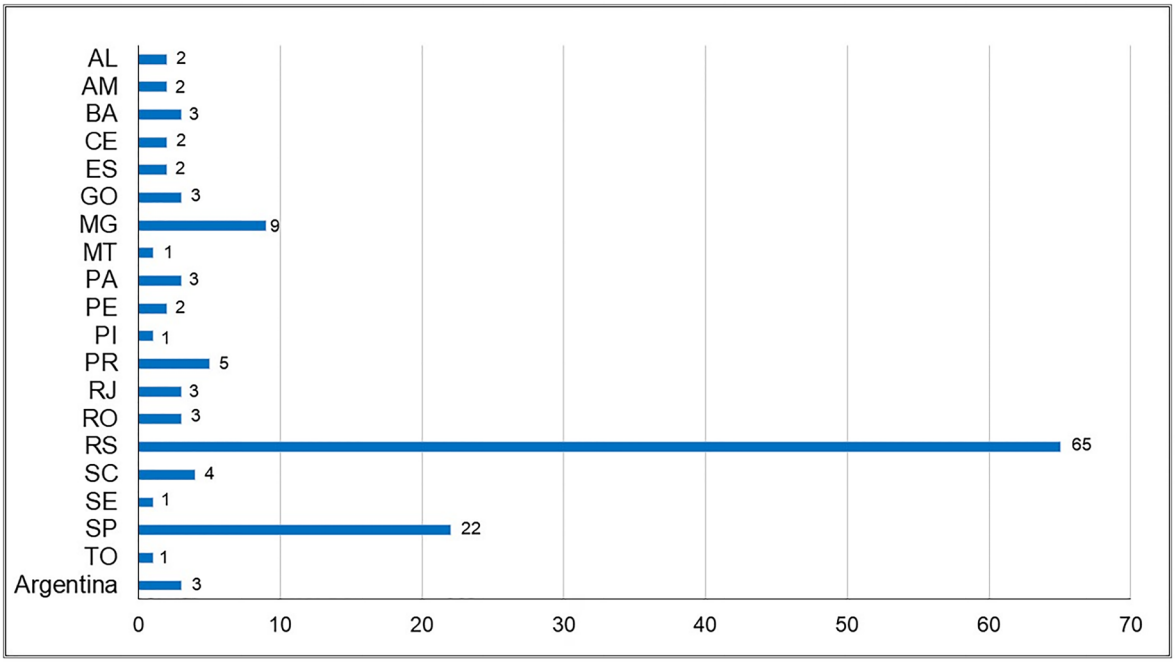

Chart 1 Distribution of participants by Brazilian states and foreign countries in Liaderm open online class.

It was stimulated mainly by the significant visual component related to the specialty. The ability to record and review classes and discussions, the increased capacity of students, and the detailed and individual studies in skin lesions are some of the benefits of distance learning. These studies allow the observation of rare and atypical lesions that are rare in short internships. Besides these, the convenience, and the prevention of crowds, an essential measure in the pandemic, are other benefits(24).

In this sense, Yeung *et al*.(25) highlight the benefits of distance learning in dermatology, such as the exchange of experience and knowledge between large audiences of students, professors, and residents and the understanding of socioeconomic and cross-cultural variants related to dermatologic conditions, especially when distance learning is applied on an international scale. This report presents the experience of a web conference on dermatologic surgery that brought together medical students from many Brazilian states

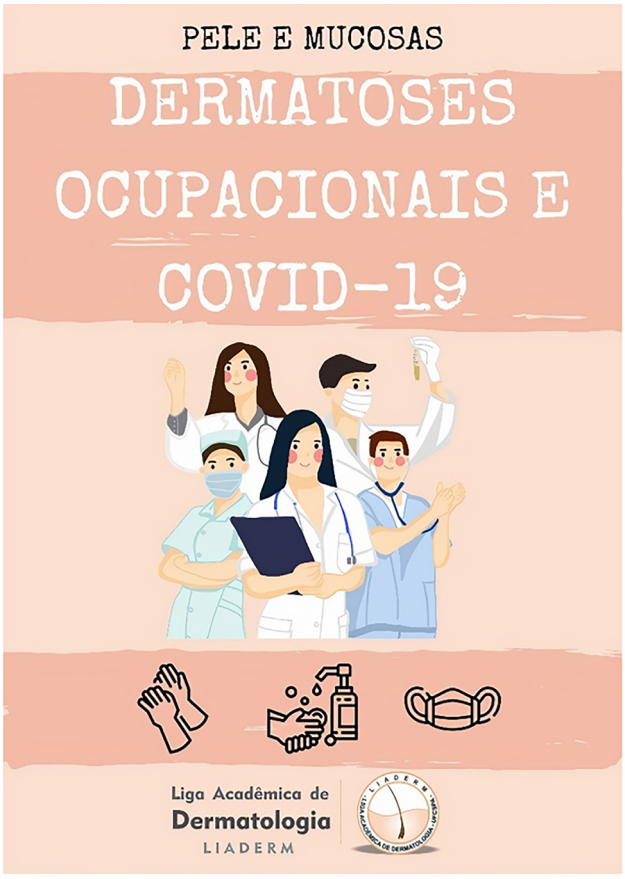

Figure 3 Manual of Occupational Dermatosis in Covid-19 pandemic
Source: 'Editora UFCSPA'(13).

and is an illustrative example of the reaching potential of ICTs resources in medical education.

From another perspective, Blakely *et al*.(15) and Stewart *et al.*(5) highlight the importance of online dermatology clinical skills sessions conducted in small groups. Reduced groups allow students to be more confident to ask questions about dermatology and receive feedbacks because students and professors have closer interactions. Liaderm also adopted online activities in small groups, for example, discussions of clinical cases and theoretical classes.

Interest groups and medical education in dermatology

Medical training implies the development of humanistic skills and social responsibility. From this perspective, interest groups stand out due to their extension activities for the academic community and society(10,26). Regarding the social contribution of interest groups, the members and coordinator professor of Liaderm joined a dermatology resident and elaborated a guidance manual on skincare for health care providers during the Covid-19 pandemic.

The frontline work in fighting the Sars-CoV-2 virus demands the extended use of Personal Protective Equipment (PPE), which can cause skin lesions and aggravate preexisting skin diseases(2,4). In this sense, the Manual of Occupational Dermatosis and Covid-19 prepared by Liaderm represented a relevant initiative for the local hospital community.

The social interaction within Liaderm online activities became even more relevant to social cohesion and students' involvement with the university context during social distancing. In this sense, Gerrard *et al*.(27) emphasize the benefits of extracurricular activities in the motivation and retention of students and in the establishment of productive relations of trust and support with tutors and professors.

However, neither interest groups nor extracurricular activities, in general, should fill the gaps and/or deficiencies of universities during the pandemic or in the regular medical curriculum. Therefore, considering the high prevalence of dermatologic conditions in different medical scenarios, medical courses must provide adequate dermatology training(28), so dermatology interest groups can have an auxiliary role.

Covid-19 pandemic and distance learning: an opportunity in adversity

The Covid-19 context demanded the incorporation of telemedicine and distance learning in medical schools' curriculum, not only in a didactic-pedagogical perspective but also as part of the program content. Consequently, students have the opportunity to acquire skills and competencies to use ICTs in their future professional practice(29).

According to Pourmand *et al*.(30), telemedicine training for medical students and resident physicians develops skills related to information management, decision making, and valorization of ethical, regulatory, and privacy aspects related to ICTs. Therefore, future professionals will tend to demonstrate more familiarity with telemedicine resources, increasing medical care offer in distant locations and rural areas.

In another perspective, Falcão *et al*.(31) emphasize the difference between remote learning and distance learning. In this sense, distance

learning presumes appropriate didactic content and tools for teaching and learning, trained professionals for ICTs use, and technical and institutional support. Therefore, the Covid-19 scenario presents remote learning as a temporary adaptation in a crisis, when in-person learning is not available(20,31).

However, regarding the conceptual divergences on distance learning, this experience and others published can encourage reflection and adherence to new educational strategies and health care models.

FINAL CONSIDERATIONS

The Covid-19 pandemic presented important challenges to medical education and the academic community and instigated the restructure of pedagogical practices and adoption of Information and Communication Technologies (ICTs) as an educational resource. The activities conducted by the Federal University of Health Sciences of Porto Alegre Dermatology Interest Group (Liaderm - UFCSPA) reached larger audiences than the usual members of the group, a fact to be considered after social distancing and the pandemic.

Regarding the difficulties of this atypical period, the innovations and solutions resulting from this scenario demonstrate a great potential to destruct old educational paradigms and consolidate long-awaited curricular transformations in medical schools.

The contribution of extracurricular activities in medical training, especially interest groups, becomes clearer by this and similar experiences highlighting the importance of stimulating the students' autonomy, proactivity, and involvement in the university context.

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