

# TEACHING GERIATRICS DURING THE COVID-19 PANDEMIC: EXPERIENCE OF A BRAZILIAN MEDICAL SCHOOL

## Ensino de Geriatria durante a Pandemia de COVID-19: Experiência de uma Faculdade de Medicina Brasileira

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### ABSTRACT

**INTRODUCTION:** During the COVID-19 pandemic, the discipline of geriatrics at the Santa Casa de São Paulo School of Medical Sciences of São Paulo was adapted to a web-based learning environment due to social distancing measures. **OBJECTIVE:** To describe the full adaptation of the discipline of geriatrics to a web-based learning tool, of two activities that were developed including the current COVID-19 to illustrate some of the main concepts of geriatric medicine. **METHODS:** The course was fully adapted to the open-source course management system called MOODLE. The first activity was a COVID-19 clinical case discussion, whose main objective was to include COVID-19 in the content of our course, illustrating some of the main concepts of geriatrics. The second activity was a Comprehensive Geriatric Assessment (CGA) experience, done via videoconference, which also assessed the impact of social distancing measures on the health of older adults. **RESULTS:** A total of 43 medical students performed both activities, and 95% of the students considered the inclusion of the COVID-19 into the discipline of geriatrics useful, 88% approved the practical experience of CGA, and 84% felt that they contributed to the health of the interviewees after contact. **CONCLUSION:** Adapting our discipline to a web-based learning tool, while including the current COVID-19 in our course content and a practical experience of CGA via videoconference was possible and approved by students. The adoption of this initiative may not only be an academic strategy, but also a possible way to improve the quality of life of older people during the COVID-19 pandemic.

**KEYWORDS:** geriatrics; education, medical; education, distance; coronavirus infections; geriatric assessment

### RESUMO

**INTRODUÇÃO:** Durante a pandemia de COVID-19, a disciplina de geriatria da Faculdade de Ciências Médicas da Santa Casa de São Paulo foi adaptada a uma plataforma de aprendizagem a distância devido a medidas de distanciamento social. **OBJETIVO:** Descrever a adaptação completa da disciplina de geriatria a uma plataforma de aprendizagem a distância de duas atividades desenvolvidas que abordaram o atual tema COVID-19 para ilustrar alguns dos principais conceitos em medicina geriátrica. **METODOLOGIA:** O curso foi totalmente adaptado à plataforma de aprendizagem a distância chamada MOODLE. A primeira atividade foi uma discussão de caso clínico de COVID-19, cujo objetivo principal foi incluir o tema no conteúdo de nosso curso, ilustrando alguns dos principais conceitos em geriatria. A segunda atividade foi a experiência prática da Avaliação Geriátrica Ampla (AGA), realizada por videoconferência, que também avaliou o impacto das medidas de distanciamento social na saúde de idosos. **RESULTADOS:** 43 estudantes de medicina realizaram as duas atividades e 95% consideraram útil a inclusão do tema COVID-19 na disciplina de geriatria, 88% aprovaram a experiência prática da AGA e 84% consideraram que contribuíam para a saúde dos entrevistados após o contato. **CONCLUSÃO:** A adaptação de nossa disciplina a uma plataforma de aprendizagem a distância, incluindo o tema COVID-19 no conteúdo do curso e uma experiência prática da AGA por videoconferência, foi possível e aprovada pelos alunos. A adoção dessa iniciativa pode ser não apenas uma estratégia acadêmica, mas também uma maneira possível de melhorar a qualidade de vida dos idosos durante a pandemia de COVID-19.

**PALAVRAS-CHAVE:** geriatria; educação médica; educação a distância; infecções por coronavírus; avaliação geriátrica

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## INTRODUCTION

During the COVID-19 pandemic, most educational activities, especially those related to the first years of graduation in medicine were adapted to web-based learning due to social distancing measures imposed worldwide. At the Santa Casa de São Paulo School of Medical Sciences of São Paulo, geriatrics is taught in the third year of a six-year curriculum. During the third year, a total of 30 curricular hours are dedicated to Geriatric Medicine. The objectives of the discipline of geriatrics are:

- to introduce medical students to the basic concepts of geriatrics;
- to present older adults' physiology and clinical evaluation;
- to discuss the diagnosis and management of geriatric syndromes;
- to present systems-based care for older patients;
- to provide practical experience in evaluating older adults with a structured comprehensive geriatric assessment (CGA).

Our objective is to describe the full adaptation of the discipline of geriatrics to a web-based learning tool, because of social distancing due to the COVID-19 pandemic, and

2 activities that were developed: a COVID-19 clinical case discussion and a CGA activity, done via videoconference, which assessed the impact of social distancing measures on the health of older adults.<sup>1</sup> We believe that both activities could be implemented in medical schools worldwide to teach some of the principles of geriatric medicine.

## METHODS

The discipline of geriatrics was fully adapted to the open-source course management system (CMS) called the modular object-oriented dynamic learning environment (MOODLE).<sup>2</sup> We organized the MOODLE learning environment into modules, with the upload of content materials and lectures. Furthermore, clinical case discussions were conducted via interactive web conferences and forums during the course.

The first activity was a clinical case discussion of an older adult with multimorbidity and an atypical presentation of COVID-19.<sup>3</sup> The clinical case, questions and curricular milestones involved in the COVID-19 discussion are presented in Figure 1. The main objective of this activity was to include COVID-19 in our course content, illustrating some of the main concepts of geriatrics in a clinical case discussion. The clinical

### COVID-19 clinical case discussion

An 81-year-old man with hypertension, diabetes, coronary artery disease, sedentary lifestyle and past tobacco use, independent in daily living activities and with preserved cognition, presented to the emergency department with the following symptoms in the last 5 days: fatigue, anorexia, mental confusion and, a fall. The patient was afebrile and did not have cough or dyspnea. As he sustained thoracic trauma, computed tomography of his chest was performed, revealing bilateral ground-glass opacities, and he was immediately diagnosed with COVID-19 infection.<sup>3</sup>

#### Questions:

- 1) Explain the physiological changes expected in the aging process that make severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) disease more severe in older adults.
- 2) What is the impact of multimorbidity in this clinical case?
- 3) Why is an atypical manifestation of the disease in this clinical case (absence of fever, cough, and dyspnea) common in this age group?
- 4) What did the fall and mental confusion mean in this clinical case?
- 5) Hydroxychloroquine has been studied and used experimentally for the treatment of severe forms of SARS-CoV-2. According to the pharmacological considerations for older adults and the side effects of the medication, what are the risks of using hydroxychloroquine in this patient?
- 6) Will this patient likely benefit from palliative care? Justify.

#### Curricular milestones involved:

- Primary physiologic changes in the aging of respiratory, cardiovascular, and immunologic systems and their clinical implications, including how they may impact a COVID-19 infection;
- Atypical manifestation, management, and underlying pathophysiology of respiratory infections and delirium in older adults;
- Benefits and known and unknown risks when prescribing a newly released medication (e.g., hydroxychloroquine), based upon age-related changes in pharmacokinetics and pharmacodynamics;
- Care of patients with multimorbidity by integrating the evidence, patients' goals, life expectancy, and functional trajectory;
- Indications and recognition of patients who would likely benefit from palliative care.

**Figure 1** Clinical case, questions and curricular milestones involved in the COVID-19 clinical case discussion.

case was available in MOODLE one week prior to the case discussion. The 43 students were assessed by their answers posted in the platform and by their participation via interactive web conference with the School during the case discussion.

In the second activity, students assessed their own older relatives via videoconference. The main objective of the activity was to experience the practice of applying a structured CGA (*Avaliação Multidimensional da Pessoa Idosa na Atenção Básica* — AMPI-AB)<sup>4</sup> and to assess the impact of the COVID-19 pandemic on the quality of life of older adults. The AMPI-AB is a structured CGA validated to be used by telephone and composed of 17 questions based on well-known and validated scores used to detect relevant geriatric problems, such as lack of social support, multimorbidity, polypharmacy, cognitive and sensory impairment, physical limitations, depression, falls, functional dependence, weight loss, and poor oral health. The final score classifies older adults in low, intermediate or high complexity of care and guides individualized healthcare plans.<sup>4</sup> The questionnaire on the impact of COVID-19 contained the following questions:

- How often have you read or watched the news about the new coronavirus pandemic and how concerned are you?;
- Can you count on someone's help for shopping or other needs?;
- To what extent has this pandemic affected your quality of life?;
- How often do you miss the company of others?;
- What are the main activities you have been doing at home in the last month?;
- Have you stopped doing physical activity?

After the completion of the CGA and the questionnaire, students were advised to make a list of recommendations to improve the interviewee's quality of life during this period. Moreover, students were required to ask if the interviewee had any questions about the coronavirus infection and reinforced the importance of social distancing and protective measures. Geriatricians supervised all activities.

## RESULTS

As a result, 43 medical students performed the interview, and 95% found it useful to include the COVID-19 topic in the discipline of geriatrics. In addition, 88% of the students approved the CGA via videoconference activity. Regarding the older adults interviewed, 49% were aged between 75 and 89 years, and after the CGA, 56% were classified as requiring low complexity care. Regarding social distancing, 90% of

older adults followed the recommendations appropriately; however, 53% had at least one question about COVID-19, 90% answered that their quality of life was worse, 46% reported depressive symptoms, 72% missed the company of others during social distancing measures, and 72% had not engaged in any physical activity in the last month. Students' most frequent recommendations to improve interviewees' quality of life during this period included the following: more frequent calls for greater social contact; encouragement of physical activity, leisure activities, and hobbies to be done at home; and general health care orientations. Finally, 83.7% of the students felt that they contributed to the health of the interviewees after contact, and 95% of the older adults felt that the contact was important to them.

## DISCUSSION

We would like to share the successful experience of adapting our discipline to a web-based learning tool, hence respecting social distancing measures while including the current COVID-19 pandemic in our course content, and illustrating some of the main concepts of geriatrics in a clinical case discussion. Furthermore, a practical experience of CGA via videoconference was possible and was approved by most students.

The reproduction of this initiative involving undergraduate medical students from other universities is feasible, and the following steps were necessary for us:

- use of a free open-source platform as a web-based learning tool;
- use of interactive web conferences for clinical case discussion;
- CGA-supportive material for students, including a tutorial video demonstrating how to conduct the assessment with older relatives or outpatients;
- clinical guidelines for COVID-19;
- supervision by geriatricians and, if possible, infectious disease specialists.

Finally, the main goal of this activity was to involve students in combating the COVID-19 pandemic, as they could provide older adults with guidance regarding social distancing and protective measures and give general recommendations to improve their mental and physical health.

## CONCLUSION

The adoption of this initiative may not only be an academic strategy but also a possible way to improve the quality

of life of older people, especially the most vulnerable due to social isolation, during the COVID-19 pandemic.<sup>1</sup>

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## CONFLICT OF INTERESTS

The authors declare no conflict of interests.

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## AUTHOR'S CONTRIBUTION

MDS and MLG: meet all four criteria for authorship recommended by International Committee of Medical Journal Editors (ICMJE), including approval of the final manuscript.

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