COMUNICATION

Cybertutor: a teaching tool in Dermatology

Cybertutor: um objeto de ensino na Dermatologia

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Abstract: It was developed a teaching tool in Dermatology for undergraduate medical students, using an interactive website, the Cybertutor. Clinical cases, lectures and updated bibliography were selected. Photographies of dermatological lesions were taken from ambulatory patients. The topics of the lectures were based on the current curriculum of the Federal University of Rio Grande do Sul. The Cybertutor is a dynamic and modern teaching tool, allowing constant innovation.
Keywords: Dermatology; E-learning; MedicalEducation; Telemedicine

Resumo: Foi desenvolvido um objeto de ensino em Dermatologia voltado para a graduação, que utiliza um web site interativo, o Cybertutor. Selecionaram-se casos clínicos didáticos, aulas teóricas e referências bibliográficas atualizadas. As fotografias das lesões foram obtidas pela seleção de pacientes atendidos no ambulatório de Dermatologia. Os temas das aulas se basearam no currículo vigente da Universidade Federal do Rio Grande do Sul (UFRGS). O Cybertutor é um objeto de ensino dinâmico, moderno e atual, que possibilita constante inovação.
Palavras-chave: Dermatologia; Educação a distância; Educação médica; Telemedicina

Telemedicine is defined as the use of telecommunications technology applied to the medical practice.[1] In especial, to Teledermatology, an area of Telemedicine that studies the application of telecommunications technology and information technology to dermatological practice. Teledermatology has been presenting an important increase all over the world.[2-4] One of the most promising and versatile applications of Teledermatology is the development of distance learning projects, training and even tutorials and assessment of learning. This occurs because it is possible to integrate texts, images (still or dynamic), virtual reality models or sounds in distance learning programs about health with pedagogic structures and communication strategies [1]

Besides that, some articles show that *e-learning* has been lately considered an important part of medical education.[5] *E-learning* can be understood as the use of Internet technologies to increase the knowldge and performance as it allows students to have more control about content, timing, sequencing and rithm of learning.[6]

The current teaching model for medical students based on traditional theoretical lectures[7] is being discussed as the retention of knowledge and the level of interest of students seem to be decreasing. Studies show that multimedia programs have many advantages in relation to traditional teaching.[8]

So, it was developed an object for medical teaching in Dermatology, using the educational platform named *Cybertutor.* This study was carried out in the dermatological service of the University Hospital

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of Porto Alegre (HCPA) and in the Laboratory of Applied Photomedicine and Telemedicine of the Research Center of HCPA and also with the technical support of the discipline "Telemedicine" of the University of São Paulo (USP).

The discipline "Telemedicine" of the University of São Paulo (USP) developed the C*ybertutor* (eletronic tutor) which is a computational system based on the WEB.[9] To carry out the *Cybertutor* project with emphasis on Dermatology students of the discipline "Introduction to Science" of the Faculty of Medicine of the Federal University of Rio Grande do Sul (UFRGS), interns of the dermatologic service of the University Hospital of Porto Alegre (HCPA) and post-graduation students of the Federal University of Porto Alegre (UFRGS) selected some of the most frequent clinical cases of dermatosis. The patients selected were informed about the interest of the staff in photographing their lesions and they signed an agreement consent allowing the use of the images of their lesions to illustrate topics which were part of the syllabus of the program of medical education.

Subsequently to the photographies clinical cases refering to the selected diseases were elaborated containing a brief description of the clinical history and dematologic exam and also including images of the lesion followed by multiple choice questions about the diagnosis, clinical symptoms and treatment of the condition presented. To each possible answer to the questions it was added a hypertext explaining the reasons why an answer was considered correct or wrong and that information could only be accessed by the student after he/she had answered the question. Lists with updated bibliography that could be easily accessed for each course content were added in the end of the clinical case. As aditional help for students there were also included slides presentations.

The development of the Cybertutor in Dermatology was based on the elaboration of didactic clinical cases complemented with relevant theoric information and updated bibliography. Thirty clinical cases were elaborated about the following dermatosis: mycoses (onychomycosis, pityriasis versicolor, tinea pedis, tinea capitis), sexually transmitted diseases (syphilis, cancrum, lymphogranuloma venereum), eczema (atopic dermatitis, contact eczema, seborrheic dermatitis), cutaneous neoplasias (melanoma, basal cell carcinoma, epidermoid carcinoma), viroses (molluscum, contagiosum, varicella, herpes zoster), zoodermatosis (scabies, pediculosis, myiasis, larva migrans), nail diseases (paronychial), infections (erysipelas/cellulitis, folliculitis), acne, psoriasis and vitiligo.

The topics of the theoric lectures were based on the current curriculum of Dermatology of this university. Updated bibliography of each clinical case and theoric lectures were found through research in MEDLINE indexed magazines between 1997 and 20007, according to the topic of each clinical case, and also through research in text books recommended as supplementary reading material for this discipline.

This new technology combines traditional teaching methods with innovative opportunities. Besides that, it is a dynamic, modern and updated method which enables constant updating of medical knowledge in its platform, ensuring updated information about the most varied themes. The *Cybertutor* allows professors to save time as lectures and video materials broadcasted can be previously recorded and, simultaneously it encourages students to actively manage their role as student.

Further studies will be necessary to assess the performance of students undergoing this new teaching method and, especially, the effectiveness of such a tool and the impact of its use to teach Dermatology to undergraduate medical students in the Federal University of Rio Grande do Sul (UFRGS). ❑

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