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Experience report

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Construction of a cardiac auscultation educational model for semiology's bases: experience report

Relato de experiência: construção de um modelo para ensino de ausculta cardíaca em bases semiológicas

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Background of the situation

The Semiology's Bases curricular component from BAHIANA – School of Medicine and Public Health conceptual approach proposes longitudinal practical training throughout the program. Such training practices happen on the fourth semester and are focused on the development of clinical investigation techniques on simulated learning enviroment. The movitation behind the construction of a cardiac auscultation's educational model arose in face of the identification of student's difficulties, who described such study as challenging and arduous. It is believed that the cardiovascular physical examination, mainly the cardiac auscultation, should not be learned only through theoric concepts. It is crucial to simulate heart murmurs as well as the occurrence of extra heart sounds, so that the student's insecurities in the face of abnormal clinical findings in a patient can be avoided. This educational model's process requires reiteration and commitment because it leads to proficiency, enabling medical students to enhance their skills.

In this system, the knowledge construction is assisted by teachers that challenge, provoke and encourage these medical students, stimulating their learning and knowledge process. This happens because the higher education institution BAHIANA has invested in the quality of practical discernment, which involves the curricular component here reported, providing excellence to the education. According to Oliveira et al. (2013), the technological progress in the last three decades created useful tools for the comprehension of

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physiopathology and diagnosis in a variety of medical fields. However, communication and informational tech tools are still underused for educational means. Thus, the communicational support present on the trainne assistant/student/teacher EBMSP's dynamic, contributes to the spreading of educational content due to the application of a virtual learning platform.

Kahwage Neto et al. (2017), says that, in a clinical situation, many students experience frustration due to the difficulty in remembering theorical knowledge previouly acquired, which makes them feel incapable in the practical clinical situations. The teachers, on the other hand, were surprised by the lack of apprehension of theorical knowledge from their students. Thinking of this, practical methods involving simulated environment were elaborated. Therefore, the medical students got used to the auscultatory sounds, showing positive outcomes in the accuracy of the tests. So the objective is develop and apply cardiac auscultation's educational strategy for fourth semester medical students.

Summary of work

To meet the study's demands, a station for clinical training was created through a Moodle platform, based on both acoustic phenomenon and replaying of the recorded sounds as learning and undestanding strategy. Also, intending to portray an easier and clearer teaching practice, it was important to approach physiopathology aspects with knowledge and wisdom. The students accommodated themselves in a quiet classroom with no external inteferences in its structure, so there could be no misundertanding on what was being requested. Also, the room was provided with good internet wireless signal. The capacitation exam was preceded by a pre-test which was succeded by a new test to check the cardiac sounds recognition.

A group of twelve trainee assistants was divided into two more groups, with six assistants in each, and the test was applied to them, aiming to the review and enhancement of the auscultation station. Standardized earphones were used and, in the classroom, the teacher and a trainee assistant responsible for his group were overseeing the students. At the end there was a moment for discussion, with criticism and suggestions, so the test could be submitted to feedback. Therefore, to the second group of trainee assistants, the practical training had already gone throught the adjustments requested from the first one.

Summary of results

Bearing in mind the university's grade curriculum, the real contact with medical semiology only happens at this moment. So, it was required adjustment to match the expectations and challenges and to increase accessibility, raising difficulty level procedurally. Thus, auscultation practical situations less usual on clinical professional practice were laid aside, giving focus on semiological findings of greater prognosis and prevalence.

Adjustments were made in the test implementing a dialogue dynamic in the classroom, also complemented by the Moodle platform's exam, including pre and post test. The students approved and were able to train their hearing, getting more used to the auscultation sounds, therefore overcoming difficulties related to the lack of perception of what was being auscultated, improving their convictions and belief in themselves within a realistic approach.

Conclusions

The authors consider that the construction of a cardiac auscultation's educational model is a tool that should be offered and available to students, but properly taught throughout the semester and having its complexity mitigated. Mainly preceding contact with patient, due to the contributional value for a better discussion and understanding of realistic

and practical clinical findings that such teaching process provides on simulated enviroment. In view thereof, the well-grounded repetition and maturity are fundamental to assimilation and performance of clinical skills.

Competing interests

No financial, legal or political competing interests with third parties (government, commercial, private foundation, etc.) were disclosed for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.).

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