

Building scientific knowledge based on the solution of clinical cases: A contemporary learning process

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Abstract— The construction of scientific knowledge based on the solution of clinical cases, also called problem-situation or case study, is a contemporary methodology, centered on the student, problematizing, teaching-learning, which allows to know the previous knowledge of the group in the face of the presented situation, as well as identifying learning needs, building new meanings and knowledge, in addition to developing specific skills for self-learning. Strategically, it is the insertion, during a course, of a social material (texts, audios, printed matter, videos), whose analysis and discussion allow to contextualize the theoretical content. This work aims to present an experience in the construction, application and evaluation of clinical cases aimed at students in the fifth period of the dentistry course at Itpac - Porto Nacional in 2020. Clinical cases were previously screened by the teacher of endodontics at the multidisciplinary clinic at Itpac - Porto Nacional and presented to students in the classroom. The students were instructed to organize themselves in groups, a time of 1 hour was established for discussion of clinical cases and websites, scientific articles and books were made available to assist in solving the proposed activity. After the end of the established time, each group presented the diagnosis of each clinical situation presented. Based on this experience, it is possible to conclude that the use of clinical cases as a pedagogical practice brings students closer to the social reality and leads them to build networks of knowledge, making them active subjects in the learning process, without renouncing the depth and specificity knowledge that a dental student needs to develop.

I. INTRODUCTION

According to Latif, 2014, Clinical Cases are real or fictitious situations, with summarized data and cognitive intentionality, whose objective is to introduce or illustrate certain knowledge. However, due to their theoretical nature, they do not allow real experience, being only an artificial, partial, systematic and theoretical proposal of professional practice, sometimes presented with a caricatural tone. The insertion of a clinical case in the disciplines of the basic cycle without proper contextualization and without the proper baggage of practical experience can discourage or be little enlightening, even distorting the professional reality.

On the other hand, the presentation and discussion of clinical cases in the classroom as a way of stimulating reflection are essential when the student is already inserted in professional practice, in the case of Dentistry courses, or in the experience of multidisciplinary clinics, as the knowledge of the practical reality, even initial, allows a critical posture of the student in the face of the presented situation, being truly problematizing (Weeks et al., 2012).

The Motivating Case methodology, by promoting the mobilization of common sense, allows to know and challenge the previous knowledge of the group of students in the face of the presented situation, as well as to identify

learning needs, to build new meanings and knowledge, in addition to developing specific skills for the student. independent study (Crowe, et al., 2011). It differs from the discussion of the Clinical Case in that the situation presented challenges the student's knowledge based on what he already brings with him knowledge of life. Even without knowing the theoretical content, the student understands the situation presented and assumes the possibility of resolution. After the presentation of the proposal, the group discussion follows, which presents the various perspectives and opinions involved, many of them contradictory or partial, making the student aware that his current knowledge is insufficient for a resolute or uniform understanding. There follows an active search for knowledge and theoretical content, always under the guidance of the teacher, through the planning and execution of a strategy by the group, which generates new discussions and expansion of the perspective of the problem, seeking conciliatory syntheses (Souza et al., 2014).

This work aims to present an experience in the construction, application and evaluation of clinical cases aimed at students of the fifth period of the dentistry course at Itpac - Porto Nacional in 2020.

II. METHODOLOGY

Clinical cases were previously screened by the professor of endodontics at the multidisciplinary clinic at Itpac - Porto Nacional and presented to students in the classroom. The students were instructed to organize themselves in groups, a time of 1 hour was established for the discussion of clinical cases and websites, scientific articles and books were made available to assist in solving the proposed activity. After the end of the established time, each group presented the diagnosis of each clinical situation presented (Pictures 01 and 02).



Picture 01: Clinical case 01



Picture 02: Clinical case 02

III. DISCUSSION

The Motivator Case was a didactic tool used in the discipline of Endodontics for the fifth period of the dentistry course at ITPAC – Porto Nacional. Before, the course was theoretical, with a predominance of expository classes,

without the active participation of students, with classes without articulation as to content and with isolated assessments by the various participating disciplines. From the longitudinal application of Clinical Cases, students had

the opportunity to debate and synthesize in groups the various subjects taught under a guiding axis.

The option for the topic Diagnosis in endodontics aimed to create the possibility of exploring and discussing an aspect that, in general, dental courses with a biological focus do not prioritize. Thus, the approach to this theme in the dentistry course in the methodology of Clinical Motivating Cases, with the presentation of real cases and situations, extracted from everyday life and the average, results in students' reflection and active posture on the subject discussed.

From the New National Plan for University Extension (2000/2001) it became of fundamental importance to deepen in the new concepts of the classroom, which should not be limited to the physical space of the traditionally established dimension, but should include all the spaces inside and outside the University, mainly in the community directly involved with it, starting to express a multi, inter and transdisciplinary content.

The traditional “tri-leg” that sedimented the University was based on teaching, research and extension activities – where knowledge was originated in the academy and applied in society, with research activities as the main support. Today, with the inversion of this tripod, it has become essential that extension activities - expansion of the physical limit of the classroom - start to occupy the main level, where teaching and research activities should be directed according to the needs of the population.

In addition, the student must actively participate in the teaching-learning process, being subjected to theoretical reflection of the added knowledge, so that he can build knowledge and correlate it with other areas, comprising a human being as a whole and within a socio-economic-cultural context. The professor, in turn, must offer conditions for training based on scientific foundations, critical knowledge and concrete experience of social reality, consolidated by the approximation of the University and the Unified Health System.

Teaching activities should focus less on transmitting and more on seeking knowledge. Therefore, the basic and professional sciences must be associated during the course of the course and encourage permanent research with the objective of obtaining scientific and technological growth in the respective areas of knowledge.

IV. CONCLUSION

Based on this experience, it is possible to conclude that the use of clinical cases as a pedagogical practice brings students closer to the social reality and leads them to build networks of knowledge, making them active subjects in the

learning process, without renouncing the depth and specificity knowledge that a dental student needs to develop.

REFERENCES

- [1] Asmar T, Rodrigues J. Origens: Thiago Silva abre o jogo e se emociona ao lembrar das dificuldades. Grupo Globo [online]. 2013.[capturado 21fev.2018]. Disponível em <http://globoesporte.globo.com/programas/esporte-espetacular/noticia/2013/06/origens-thiago-silva-abre-o-jogo-e-se-emociona-ao-lembrar-das-dificuldades.html>
- [2] Mitre SM et al. Metodologias ativas de ensino-aprendizagem na formação profissional em saúde: debates atuais. Ciênc. Saúde Coletiva 2008;13(2):2133-2144.
- [3] Batista NA. Desenvolvimento docente na área da saúde: uma análise. Trabalho, Educação e Saúde 2005;3(2):283- 294.
- [4] Batista NA, Vilela RQB, Batista, SHSS. Metodologias ativas de ensino aprendizagem (Maea): potências para aprender e ensinar em medicina. In: Educação Médica no Brasil. São Paulo: Cortez, 2017. p. 219-234.
- [5] Berbel NAN. A problematização e a aprendizagem baseada em problemas: diferentes termos ou diferentes caminhos? Interface Comunicação, Saúde e Educação 1998; 2:139-54.
- [6] Bordenave JD, Pereira AMP. Estratégias de Ensino-Aprendizagem. 12ª Edição. Petrópolis: Editora Vozes, 1991. Tellis WM. Application of a Case Study Methodology. The Qualitative Report 1997; 3(3):1-19.
- [7] Crowe S, Cresswell K, Robertson A, Huby G, Avery A, Sheikh A. The case study approach. BMC Medical Research Methodology 2011; 11:100-109.
- [8] Latif R. Impacto of case-based lectures on students' performance in vascular physiology module. Advances in Physiology Education 2014;38:268-272.
- [9] Cyrino E, Toralles-Pereira L. Trabalhando com estratégias de ensino-aprendizado por descoberta na área da saúde: a problematização e a aprendizagem baseada em problemas. Caderno de Saúde Pública 2004;20(3):780-788.
- [10] Souza CS, Iglesias AG, Pazin-Filho A. Estratégias inovadoras para métodos de ensino tradicionais – aspectos gerais. Medicina 2014;47(3):284-292.
- [11] Pereira OP, Almeida, TMC. A formação médica segundo uma pedagogia de resistência. Interface – Comunic. Saúde Educ., 2005; 9(16):69-79. 13.
- [12] Weeks JC et al. Patients' Expectations about Effects of Chemotherapy for Advanced Cancer. The N Engl J Med 2012; 367:1616-1625. 14.
- [13] Rhoades DR, McFarland KF, Finch WH, Johnson AO. Speaking and interruptions during primary care office visits. Family Medicine 2001;33(7):528-532.