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Implementation of team-based learning in the 3rd year of a systems-based medical program: a pilot study in genetic and environmental physiopathology

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Background: Minho Medical School offers a six-year undergraduate program, with a systems-based curriculum. The 3rd year Biopathology and Introduction to Therapeutics curricular unit has an integrated approach to pathology, pharmacology/therapeutics, genetics, immunology and microbiology. We designed an 1-day TBL activity to bring on an interdisciplinary approach within a module on medical genetics, prenatal diagnosis and cancer physiopathology. This work evaluates students' perceptions and performance in the activity.

Summary of Work: The 96 students participating in the TBL activity first took a 30-minute individual readiness assignment (IRA) test consisting of multiple-choice questions based on clinical vignettes. Afterwards, student teams discussed individual answers and solved two clinical cases (120 min). Finally, the class got together with faculty for the application discussion (180 min). Students were surveyed about the activity on the same day and were asked to answer the 10 most difficult and discriminating IRA items three weeks later.

Summary of Results: The response rate to the post-activity survey was 56%. Students considered that TBL positively increased their knowledge on pharmacology (88,9%), prenatal diagnosis (83,3%), cytogenetics (88,9%), cancer pathology (77,8%) and genetic counseling (75,9%). They particularly appreciated the opportunity to apply and integrate knowledge, individually and in groups. The possibility to practice exercises and to perform discussion with faculty was also emphasized, with 54% of students considering that the activity increased their motivation to get involved in peer discussions. The average classification on IRA test was 50,3%. Post-activity test had a mean classification of 84,3%.

Discussion: Medical students developed positive perceptions about the 1-day TBL activity and, 3 weeks later on, provided better answers on IRA items.

Conclusion: TBL can impart sustainable knowledge and lead to high satisfaction among participants.

Take Home Messages: Students within a systems-based program appreciated many aspects of the TBL process and increased their knowledge about learning objectives.

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Developing an Instrument for Assessment of Team-Based Learning by Learners

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Background: In Team-Based Learning (TBL) method of teaching, students actively participate in the teaching-learning process and are responsible for their learning through pre-class studying and team work with other classmates. Evaluation of the TBL sessions by students would help its better implementation. In this study we developed a valid and reliable tool for assessment of TBL classes.

Summary of Work: This mixed method cross-sectional study with a Qual-Quan design was conducted on 168 medical students of Tehran University of Medical Sciences in the basic sciences stage of their studies. We asked for students' satisfaction with this teaching method and its effectiveness, in semi structural in-depth individual interviews until data saturation (12 interviews). We performed content analysis of the interviews and designed the questionnaire.

Psychometric characteristics of the questionnaire were assessed in the terms of content validity, test-retest reliability, internal consistency and construct validity through explanatory factor analysis.

Summary of Results: The final tool was a 29-item questionnaire (reliability =0.87 and Alpha=0.93) with 5 components of "learning enhancement", "satisfaction", "technical aspects", "teacher capability" and "appropriate testing".

Discussion: The way of implementing TBL sessions has a notable effect on learning quality, so evaluation of these sessions' outcomes and pros and cons requires the assessment of the learners' experiences and comments in different educational contexts which needs a suitable tool.

Conclusion: This tool can be used for the assessment of TBL classes.

Take Home Messages: Assessing the students' experiences of TBL method can provide valuable information for improving the learning quality.