

Title: Training in undergraduate teamwork skills during emergency situations

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What was assessed: Teamwork is an essential component of medical education. In Colombia, medical students are active members of teams in emergency situations (emergency, OR, ICU). In these settings, students are delegated responsibilities and critical tasks. Nonetheless, learning on teamwork is a part of “tacit knowledge”, and there is a lack of explicit knowledge in former competences in the curriculum. Faculty recognizes the necessity to develop skills in teamwork as part of medical career, actively involving specific longitudinal contents in the curriculum. At the bottom, a major challenge is the transformation of the perceptions and attitudes in individuals, recalling the importance and essentials of teamwork, previously to introduce specific practical skills.

During this *pilot project* a course of fundamentals of teamwork for 4th year students of surgery was developed, focusing in the improvement of attitudes in emergency clinical situations.

What was tried: The course was divided in virtual and practical sessions. In the first session (2 weeks) were addressed the five essential categories of teamwork (team structure, leadership, situation monitoring, mutual support, and effective communication) according to TeamSTEPPS performance skills perspective (<http://teamstepps.ahrq.gov>), emphasizing the relevance in emergency situations. We used an innovative interactive web portal (EduDECISION[®] <http://www.fabumed.net/edudecision/www/index.php>) including 6 original video lectures, 12 trigger videos, 6 practical exercises, references, complementary documents, and an open forum. Original videos were developed using Camtasia Studio 7.1 Software, uploaded via YouTube to EduDECISION[®]. A practical session (8 hours) was conducted at the end of the virtual session, using case discussions and practice exercises. Pre-assessment of attitudes and perceptions and post assessment of attitudes, analyzing the five categories, were conducted using two validated instruments (*teamsSTEPPS TM Attitudes Questionnaire* and *teamsSTEPPS TM Perceptions Questionnaire*), via Google Drive through EduDECISION[®].

What lessons were learned: A total of 33 voluntary participants (27 students and 6 teachers) were included. During virtual session a total of 805 hours of video reproduction (13.6 hours/participant), 155 post (4.7 post/participant) and 476 video reproductions were identified. During the practice session eight exercises were conducted. Pre-assessment on *perception* identifies poor marks in all categories (leadership, situation monitoring, mutual support and communication) recalling the importance of adequate team structure. A comparison between pre and post-assessment in *attitudes* identified improvement in 66.6% of attitudes (20/30 questions of teamsSTEPPS TM Attitudes Questionnaire) after the intervention. To adjust the contents and materials in the remaining non-changing attitudes (33.4%), a focus group session with a sample of 16 participants was conducted identifying areas of improvement.

During this *pilot intervention* most attitudes about teamwork, as a basis for further interventions in practical skills, were improved in surgical undergraduates. The better-quality materials, modified according to lessons learned, are being applied and analyzed in new cohorts of trainees. We are adjusting the materials to introduce these contents in other areas, as basic sciences and faculty. A complementary course of practical skills in teamwork is under construction. Further measures of teamwork *perceptions* should be repeated to assess the permanence of *attitudes* over time.

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