that they had developed these skills and attitudes not through formal curricula, but through immersion in organizational cultures that fostered positive learning experiences and interaction with role models. Future interventions could involve trainees in system-level, cross-professional problem solving, combined with thoughtful pairing of appropriate mentors or coaches, such as the experts identified in this study, and allowing participants to reflect on their experience.

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NEW IDEAS

Teaching How to Teach in a Train-the-Trainer Program

Setting and Problem

Train-the-trainer programs in international settings focus on teaching medical content to local faculty.[1] Local faculty are then tasked with becoming the teachers of medical content to other hospitals and regional health care providers as part of the development of a sustainable educational program. However, faculty are rarely taught effective teaching techniques during their medical training or as a part of a train-the-trainer course.[2]

Advanced Pediatric Life Support (APLS) courses[3] are designed by the American Academy of Pediatrics (AAP) to be adaptable to different practice environments. The course materials include a student manual and an instructor "toolkit" with 21 modules of medical content in PowerPoint slides and small group session scripts, skill stations, and administrative materials, including recommended course schedules and pre- and posttests. All materials can be modified according to setting. After taking the course, students can become course instructors. Additionally, the AAP outlines parameters for instructors to become course directors, who can submit a course schedule to the AAP and obtain official certification for students. We have used the APLS program and a train-the-trainer approach to increase pediatric capacity in global health.

Intervention

We proposed to include modules on teaching pedagogy within our APLS train-the-trainer programs. In April 2018, we implemented an APLS course at the University Teaching Hospital of Kigali in Rwanda with 2 iterations of the course over 1 week. The first

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TABLE
Comparison of Course Results Between Group Taught by Initial Faculty and Trainers

Results	Group 1 (9 Future Trainers Taught by Faculty)	Group 2 (28 Students Taught by Trainers From Group 1)
Pretest scores, median (SD)		
All specialties	71% (7%)	65% (15%)
Pediatrics	75% (5%)	77% (7%)
Emergency medicine	71% (6%)	63% (13%)
Anesthesiology	63% (7%)	47% (15%)
Posttest scores, median (SD)		
All specialties	85% (9%)	85% (7%)
Pediatrics	80% (10%)	85% (4%)
Emergency medicine	93% (0%)	89% (6%)
Anesthesiology	78% (4%)	81% (7%)
Questionnaire responses, median score (1, strongly agree; 2, agree; 3, neutral; 4, disagree; 5, strongly disagree)		
"Before this APLS course, I felt comfortable taking care of sick children."	2.4 (SD 0.9)	2.4 (SD 0.7)
"After this APLS course, I feel comfortable taking care of sick children."	1.3 (SD 0.6)	1.5 (0.5)

Abbreviation: APLS, Advanced Pediatric Life Support.

APLS course was designed as a train-the-trainer session for faculty and chief residents in anesthesiology, pediatrics, and emergency medicine, with special interest in teaching. In addition to medical content, the train-the-trainer course included 4 interactive presentations on learner-focused teaching methods with the objective that course participants must be able to use learner-centered techniques during didactic and bedside teaching sessions. Teaching pedagogy sessions included adult learning principles, procedure and bedside teaching, simulation and small group sessions, and how to give feedback.[4] The sessions were designed to be interactive and encourage questions.

The second APLS course was held for 28 additional residents by the newly trained "trainers." During these sessions, the trainers were encouraged to update their topics to focus on material and resources important for their practice in Rwanda. The trainers also received feedback about their use of teaching techniques during lectures, skills sessions, and small group cases.

Outcomes to Date

After completion of each course, students took the APLS subject content examination. The pass rate (> 80% on the posttest) was 67% for group 1 and 79% for group 2. As presented in the TABLE, the scores did not differ among students who took the course from the initial or the new instructors. Both groups showed improvement in their comfort level in caring for sick children after the APLS course. The trainers were very engaged and thoughtful throughout the discussions on pedagogical topics. For example, during the session on feedback, the trainers discussed how most feedback they received during medical school and residency focused on negative evaluations. Therefore, they were unsure how to provide effective feedback to their students, leading to questions on how to implement feedback in their clinical teaching. The written feedback regarding the pedagogy modules included [the topic on] "teaching skills was good" and "this course was very helpful." The new trainers identified key takeaway learning points on pedagogy, including "learner-centered approach with closer monitoring and regular and constructive feedback," "interactive group discussions," "know how to give feedback and receive feedback," and "engage the audience." The trainers were observed to lead interactive presentations and small group discussions and provided real-time feedback during simulations to their students.

We feel that train-the-trainer programs are important for developing local expertise and sustainable medical knowledge, especially in global settings. However, future trainers would benefit from training in teaching pedagogy during the train-the-trainer program itself. We believe that integrating medical knowledge and education pedagogy and practice will increase the success of train-the-trainer programs.

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Effectiveness of the 1-Minute Preceptor on Feedback to Pediatric Residents in a Busy Ambulatory Setting

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Setting and Problem

Learning during clinical practice is an integral part of physicians' graduate training.[1,2] While most preceptors are experts at clinical practice, few have received formal training in teaching, assessing, and supervising residents.[1] Lack of time in busy clinical settings is another factor that contributes to deficiencies in clinical teaching and feedback to trainees. Ambulatory pediatric care in teaching settings is demanding, and can prevent educators from providing adequate feedback to residents.[3,4] Use of methods designed for brief, meaningful, and actionable feedback, such as the 1-Minute Preceptor (OMP) may help trainees learn from their clinical experiences in a structured manner.[5–7] The OMP is a widely used method for improving structured case-based teaching.[6] The simple-to-administer nature of the OMP module (BOX) makes it useful in busy teaching settings.[7]

Intervention

We instituted the OMP as a workplace-based assessment in a busy pediatric clinic in South India. Ten faculty preceptors involved in teaching residents were trained in the OMP. Twelve second-year pediatric residents voluntarily participated in the study.

During an introductory workshop we explored the concept of OMP in four 15-minute sessions. The 5 micro skills were elaborated in a journal session, video, and live demonstration. In each session, we emphasized defining objectives and ensuring that defined objectives were met in the allotted time. Prior to the intervention, none of the participating faculty had been trained in the OMP. The participating faculty members then applied the OMP module during pediatric residents' daily clinical case presentations for 1 week in March 2016. Feedback was provided on commonly encountered cases, including febrile seizures, bronchiolitis, and urinary tract infection.

Our approach for applying the OMP is described below.

1. **Get a commitment:** On daily rounds, faculty asked residents to develop differential diagnoses after completing an independent patient history taking and physical examination.
2. **Probe for supporting evidence:** Once a diagnosis or differential diagnosis was reached, faculty prompted the resident to elaborate on the decision-making process.
3. **Teach general rules:** Faculty then discussed important relevant clinical concepts.