

Impact of evidence based medicine curriculum on medical students during paediatrics clerkship

CAN Okoromah, AO Adenuga, FEA Lesi, BB Afolabi, MO Odelola, CI Esezobor, OK Serrano, A Ibegwam and CI Okwundu.

Context and setting

Advancements in information technology and biomedical research have resulted in an expanded and constantly changing biomedical literature of variable quality and clinical relevance. This has resulted in the need to teach medical students skills in self-directed information management and critical appraisal. Evidence based medicine (EBM) principles have been widely accepted as efficient strategies for accomplishing these goals and have been incorporated into many medical school curricula.

Why the change was necessary

In sub-Saharan Africa, the teaching of EBM is rarely part of undergraduate medical training programs. At the College of Medicine of the University of Lagos, Nigeria we recently explored the feasibility of introducing a course in which we aimed to improve students' competencies in EBM and their learning.

What was done

A core group of faculty developed and taught an EBM course comprising a series of patient-centered, interactive large and small group seminars and practical sessions outlining the following main concepts: the definition of EBM; how to formulate focused, answerable clinical questions; and how to develop effective search strategies, access EBM resources and critically appraise research evidence. Participation in the EBM course was voluntary. Fifty-four (90%) of students in their fifth year of study (6 year curriculum) enrolled for the three month course, which ran concurrently with a paediatrics clerkship. A validated knowledge, skills and attitude self-assessment questionnaire for EBM was used to determine changes in students' competencies and learning style before and after participation in the course. Changes in mean scores were compared using a paired T test and two way analysis of variance (ANOVA). Categorical data were subjected to Chi square analysis. Associations between knowledge, attitudes and practice were tested by Pearson's correlation coefficient. Outcome measures were considered statistically significant at a p value of ≤ 0.05 . Epi info 6 and SPSS statistical packages were used for the analysis.

Evaluation of results and impact

A statistically significant increase in students' self-reported knowledge, skills and attitudes about EBM was found. Mean scores for their understanding of the EBM concepts increased from 2.20 ± 0.85 to 3.17 ± 0.80 on a 4 point rating scale ($p < 0.001$). Their knowledge about the EBM process also increased significantly ($p < 0.05$). Mean scores for their knowledge about the need for effective literature search in EBM practice were similar and relatively high in the pre-and post-survey, 3.24 ± 0.71 and 3.33 ± 0.89 respectively. Although textbooks remained their major source of evidence, increased use of the Internet ($p = 0.0003$), Cochrane database ($p = 0.0001$) and secondary EBM resources ($p = 0.045$) was reported. Students' use of EBM resources for patient care related questions increased ($p = 0.0001$). Self-perceived limitations to EBM practice included

lack of training (77.8%) and lack of role models among their teachers (60.9%). The EBM course was perceived by students to have enhanced their learning (74.1%) and provided lifelong learning skills (90.7%). A positive correlation was found between knowledge about EBM, the use of EBM resources and application of EBM concepts to patient care questions, while a negative correlation was noted between knowledge and misconceptions about EBM. Students strongly supported the inclusion of EBM course in their undergraduate curriculum (90.7%).

An EBM course, even with resource constraints, is a feasible, beneficial and desirable educational program for medical students that is associated with significant self-perceived benefits that include enhancement of learning, provision of lifelong learning skills and increased use of EBM resources.

Correspondence:

CAN Okoromah MD, FMCPaed.
Department of Paediatrics
College of Medicine, University of Lagos
PMB 12003
Lagos, Nigeria.
christyok@operamail.com