11.00

IMPROVEMENT IN THE QUALITY OF CLINICAL DECISION MAKING IN AN ACUTE PAEDIATRIC SETTING: IMPACT OF A WEB-BASED DIFFERENTIAL DIAGNOSIS TOOL (ISABEL)

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Background: ISABEL (www.isabel.org.uk) is an Internet-delivered decision-support system that provides a novel differential diagnosis tool. In response to clinical features from a patient, it produces a list of diagnoses for the clinician's consideration, by searching 4 standard paediatric textbooks. Aims: To assess changes in clinicians' decision making quality after consultation with ISABEL, for a representative set of case simulations. Materials and methods: 24 case histories (12 different specialities and 3 levels of difficulty) were used. Clinicians of different grades and medical students were recruited by invitation from the ISABEL UK user database. On a special trial website, subjects recorded their clinical decisions (differential diagnosis, investigations and management plan) before and after consultation with ISABEL. A panel of two general consultants provided 'gold standard' decisions against which the subjects' decisions were measured, using a previously validated scoring system. Results: 76 subjects (18 consultants, 24 SpRs, 19 SHOs and 15 students) completed 751 case episodes. Improvement in decision making was maximal for students and inexperienced doctors, and moderate for consultants. Median extra time taken for ISABEL consultation was 1 min (IQR 30 sec to 2 min). Mean quality score (SD) Proportion of episodes in which ISABEL reminded a 'significant item' *p value<0.05 Pre-ISABEL Post-ISABEL D. Diagnosis (19.1) 37.9 *(18.7) 42.7 (12.7%) 95/751Investigations) 36.9(19.5) 35 *(19.7 (9.3%) 70/751Management (14.7) 17.33 (6.5%) 49/751*(15) 18.23

Conclusions: ISABEL prompted doctors to consider a significant diagnosis in 1/8, and significant test in 1/10 cases in the simulated environment. These results suggest a significant improvement in clinical decision making in acute paediatrics.