



Effectiveness of an Interactive CD ROM Training Program Designed to Teach Infant Physical Examination Skills

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Objective

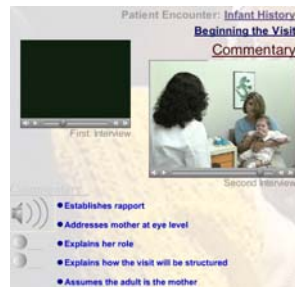
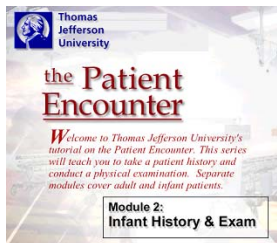
To evaluate the effect of an interactive CD ROM program designed to teach infant history and physical examination (PE) on acquisition of PE skills by the students who studied the program.

Design/Methods

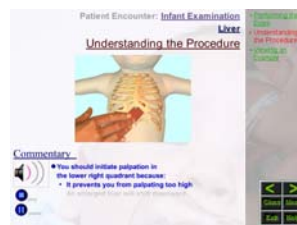
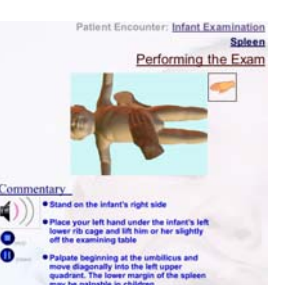
An interactive CD ROM about infant history and PE has been developed by three of the authors (JLL, RPG, AJF). Third year students (n=89) were divided into three groups, Px, Hx, and Cx. On the first day of the pediatric clerkship group Px (n=28) reviewed the PE module, group Hx (n=30) reviewed the history module and group Cx (n=31) was the control group and unaware of the program.

Using a 12 item checklist and a standardized infant and mother, student performance on a 12 point abdominal examination was scored before (baseline), immediately after viewing the program (post-intervention) and at the end of the clerkship. Group Cx had no intervention and performance of the abdominal examination was assessed only at the end of the clerkship.

Mean performance scores were generated for each group and differences compared using ANOVA and 1 and 2 tailed t-tests.



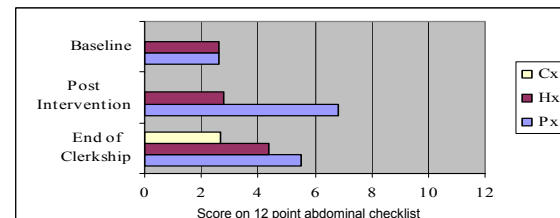
The history taking section presents a series of sample encounters. The novice encounters ask the student to identify what problems were presented. Commentary on what happened and suggestions from faculty are then presented. A second encounter provides an example from a more experienced student, providing a model to follow.



The physical exam is taught using a combination of text, video and animation. Frequent activities for the user, such as plotting growth charts, listening to heart and breath sounds, keep learners engaged.

Results

There was no difference in PE scores at baseline Px ($\mu=2.6$) and Hx ($\mu=2.6$). Post-intervention, group Px performed significantly better than group Hx ($\mu=6.8$ vs. $\mu=2.8$, $p<0.00$). End of clerkship scores were significantly different both Px and Hx compared to Cx ($\mu=5.5$ vs $\mu=2.7$, $p<0.00$ and $\mu=4.4$ vs $\mu=2.7$, $p<0.002$). The mean end-clerkship score for group Cx was the same as the baseline scores for group Px and Hx.



Conclusions

The PE module had an immediate and sustained improvement effect on students PE skills. Students in the history intervention group also improved PE skills at the end of the clerkship, possibly due to sharing information between students or a Hawthorne effect.

This study did not find an improvement in PE skills of students in the control group indicating that a formal structured experience is more effective than the informal teaching common to medical school clerkships.

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