



A Retrospective Study Challenges the Construct Validity of GI Virtual Trainers



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BACKGROUND

- The virtual gastrointestinal endoscopy trainer (GI mentor) is an important tool for surgical resident's simulation training.
- GI mentor has proved to have construct and face validity in many prospective cohort study.
- Whether PGY1 and PGY2 with prior exposure in these trainers, challenging the validity is not addressed.

AIM

- Could virtual colonoscopy training of fellows, faculty and residents have influence on the construct validity?
- Validity could be challenged in a retrospective study where prior exposure could play a role in certain areas of the performance?

METHODS & MATERIALS

- This is a retrospective study involving junior faculties, fellows and residents
- Virtual endoscopy trainer used was GI mentor
- Only basic procedures were included for analysis
- PGY1 as group I, PGY2 as group II and faculty-fellows as group III.
- Group I, II, III did 72, 56, 56 colonoscopies respectively
- Analysis- Chi square test was done to analysis the data
- P value of <0.05 was considered significant.

AREAS ASSESSED

- Variables taken into consideration were:**
 - Percentage of excessive local pressure
 - Percentage of the mucosal surface examined
 - Percentage of time patient was in pain
 - Time to reach caecum
 - Lost view of lumen
 - Percentage of time spent with clear view
 - Efficiency of screening

Results - Area Where Novice Performed Better

Particulars	G I (72)	G II (56)	G III (56)	P value
Time to reach caecum - within seven minutes	38	49	16	0.003
Excessive pressure (mild pressure)	68	38	68	0.02
Efficiency of screening (91-95%)	17	9	5	0.02

Results - Area Where Experts Performed Better

Particulars	G I (72)	G II (56)	G III (56)	P value
mucosal surface examined (>90%)	25	13	40	0.02
Percentage of clear view (>90%)	16	13	27	0.02

CONCLUSIONS

- Experts had significant performance in having higher percentage of clear view and higher percentage of mucosal surface examined.
- Time to complete the colonoscopy, percentage of mild pressure and efficiency of screening were significant in the resident group.
- Thus in a retrospective study, the construct validity of the GI mentor could be challenged
- This observation could reflect the prior exposure to these trainers and may not reflect the real life situation where the fellows and faculty could perform better.