Educational Interventions Improve Trainee Approach to Urine Culturing in Catheterized Patients

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OBJECTIVES

• To evaluate current knowledge and practices of trainees regarding indications to order urine cultures in catheterized patients.
• To educate trainees about current evidence-based indications to order urine cultures in catheterized patients.
• To assess the impact of this educational intervention.

METHODS

• Setting: 1541-bed academic medical center, New Haven, CT.
• Survey: Types: baseline and post education, paper and electronic.
• Respondents: medical students, residents, fellows.
• Survey period: January to March 2018; post education surveys given a range of immediately after to several weeks after education.
• Components: questions about resident’s role, primary location of practice, and 13 questions to evaluate whether culturing practices were consistent with IDSA guidelines.
• Scores calculated on a scale of 0-12 (one question was controversial) with 1 point for each incorrect answer. Differences between the means of these populations were evaluated by ANOVA in GraphPad Prism.
• Education about the urine culture algorithm done via trainee-to-trainee self-directed word of mouth, email, or noon conferences.
• Post education surveys were distributed a range of timeframes after education-averaging two weeks after education.

CONCLUSIONS

• Our data show that advanced trainees (residents, fellows) scored better than medical students and interns. However, trainees at all levels improved their scores with education about culturing.
• The form of the education did not make a significant difference in their scores, which suggests that sending out electronic resources may be just as effective as more time-intensive noon conferences.
• Our analysis shows that there is great opportunity and benefit to targeting education to trainees to promote diagnostic stewardship.
• Future studies should focus on the sustainability of the impact of these educational interventions.

RESULTS

• 160 out of an estimated 930 trainees (18%) responded to our baseline survey, with average scores improving with level of training - 6.4 for medical students, 4.2 for interns, 3.9 for residents, and 3.8 for fellows (p=0.05, Table 1).
• 93 of 160 (57%) trainees responded to the post education survey, with improvement in scores across all levels (p<0.05 for residents, Table 1) and all questions (Figure 1).
• Trainees who reported that they did not receive any form of education scored significantly worse than average (4.68 vs 2.84, p<0.005, Figure 2), and the trainees who reported receiving multiple forms of education scored better than average (1.00 vs 2.84, p=0.06).
• There was no difference in score based on how the trainees were educated (1.94 for email vs 1.89 for word-of-mouth vs 2.00 for in-person conference, p=0.99, Figure 2).

REFERENCES


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