Remediation of Oral Presentations Skills for Third-Year Osteopathic Medical Students During Internal Medicine Clerkships at Distant Sites

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Introduction
- Prior studies demonstrated between 7-28% of medical students require remedial teaching to achieve American Council for Graduate Medical Education (ACGME) competencies.
- Most learners struggle with the application of medical knowledge and clinical reasoning.
- The oral case presentation is a significant means by which medical students are evaluated for their competence in medical knowledge and clinical reasoning.
- There are several examples in the literature of evaluation tools and remediation programs to assist student achieve competencies in the skill of orally presenting a case.
- However, there does not appear to be evidence of an effective remediation program that has been administered for students located at distant sites during their internal medicine clerkships.

Aim
- This study’s aim is to determine if remediation for student oral presentation skills can be successfully accomplished while they are on internal medicine clerkships at distant sites.

Methods
- Participants were third-year osteopathic medical students from WesternU/COMP’s DO class of 2017.
- At the start and at the end of an internal medicine in-patient rotation block, students performed oral presentations immediately after an objective structured clinical examination (OSCE) and were graded using a rubric designed by the internal medicine faculty (IM raters).
- Students requiring remediation, based on a score < 30, were then asked to present a de-identified case over the phone to a different IM rater during their IM clerkship.
- If deemed necessary by the IM rater, repeat phone appointments are arranged to critique other case presentations until the student achieves competency.

Outcome Measures
- The mean OSCE oral presentation score of remediated students compared to the mean score of non-remediated students.
- The overall mean OSCE oral presentation scores before and after the internal medicine clerkship rotation.
- The percent of all students requiring and not requiring remediation of the OSCE oral presentation before and after the internal medicine clerkship rotation.

Results
- Data was analyzed using SPSS version 24.
- Group means and standard deviations are given in Table 1.
- Repeated measures analyses were conducted to determine if significant differences emerged between the total group, initial remediated/non-remediated groups pre-rotation and post-rotation (Figure 1).
- Repeated measures analyses were also conducted to determine if significant differences emerged between the remediated/non-remediated outcome pairings (Figure 2).
- Level of significance was set at α = 0.05.

Table 1

<table>
<thead>
<tr>
<th>Initial Groups</th>
<th>n</th>
<th>% Pre-Rot. Mean (SD)</th>
<th>Post-Rot. Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-remediation</td>
<td>125</td>
<td>74.4</td>
<td>32.5 (2.7)</td>
</tr>
<tr>
<td>Remediation</td>
<td>43</td>
<td>25.6</td>
<td>26.8 (2.8)</td>
</tr>
<tr>
<td>Remediation to Remediation</td>
<td>5</td>
<td>3.0</td>
<td>27.0 (4.2)</td>
</tr>
<tr>
<td>Non-remediated to Remediation</td>
<td>8</td>
<td>4.8</td>
<td>33.4 (2.2)</td>
</tr>
<tr>
<td>Non-remediated to Non-remediated</td>
<td>38</td>
<td>22.6</td>
<td>26.8 (3.5)</td>
</tr>
<tr>
<td>Non-remediated</td>
<td>117</td>
<td>69.6</td>
<td>32.4 (2.7)</td>
</tr>
</tbody>
</table>

Total: 160

Note: * Indicates p < .01  ** p < .001

Discussion
Overall pre-rotation and post-rotation mean scores significantly improved (31 vs. 32.8).
- Mean score for remediated students significantly improved (26.8 vs. 32.8) compared to students who did not undergo remediation (32.5 vs. 32.9).
- Overall percent of those needing remediation decreased from 26.8% pre-rotation to 7.8% post-rotation.
  - Of the 7.8% needing remediation post-rotation, 4.8% of these students did not need remediation pre-rotation.
  - Of the 7.8% needing remediation post-rotation, 3% also needed remediation pre-rotation.

Strengths of the study include:
- One standardized grading rubric for each case was created and agreed upon by all raters.
- Raters never graded the same student for both pre-rotation and post-rotation oral presentations.
- Remediation took place while students were on IM rotations, using cases the students were following at the distant site.

Weakness of the study includes:
- The percentages of students who need remediation may be underestimated because the OSCE cases used for the pre and post-rotation oral presentations may not reflect the complexity of cases experienced by students on rotation.
- A standardized method of remediation was not used.
- The most common cause(s) of needing remediation was not determined.
- Because preceptors were not involved in this program, grading students’ oral presentation skills may not correlate with oral presentation skills on rotations.

Next steps include:
- Correlating oral presentation scores rated by preceptors during a student’s rotation with their post-rotation OSCE oral presentation score.
- Creating a standardized method for remediation.
- Determining the largest cause(s) for remediation.
- Creating grading rubric that is adaptable for any of a student’s case, while a student is on rotations (i.e. without the use of an OSCE case) – therefore making the program more adaptable for entrustable professional activities (EPAs) in terms of evaluation and remediation.

Conclusion
- Remediation of oral presentation skills may be successfully accomplished for medical students at distant clerkship sites.
- A remediation program such as the one in this study may be more applicable to evaluating EPA’s and remediating a student’s skills.