Further Expansion of Nested E-Modules to Address Anatomical Knowledge Retention in Medical Students entering the Obstetrics and Gynecology Clinical Rotation

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Goals

Our goal is to address deficits in a novel interactive e-module curriculum to improve student retention of anatomy related topics relevant to third-year OB/GYN clinical clerkship.

Background

• 143 consenting third-year medical students (IRB approved) took a 29 MCQ EXAM assessing pre and post-test retention on clinically relevant OB/GYN anatomy: uterus, vasculature, peritoneum, fallopian tube, muscles and ligaments, embryology, placenta, structure ID, neuroanatomy, histology (Jurjus et al., unpublished).

• INTEGRATED CURRICULUM
  - interactive e-modules
  - Hands-on gross laboratory session

• CURRICULUM EFFICACY
  - evaluated efficacy of e-modules across anatomical topics using the data from table 1. This data illustrates that performance on embryology and histology questions is low.

<table>
<thead>
<tr>
<th>Topics</th>
<th>Pretest % Correct</th>
<th>Posttest % Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uterine</td>
<td>50.00%</td>
<td>88.33%</td>
</tr>
<tr>
<td>Vasculature</td>
<td>63.20%</td>
<td>77.33%</td>
</tr>
<tr>
<td>Peritoneum</td>
<td>86.00%</td>
<td>93.33%</td>
</tr>
<tr>
<td>Fallopian Tubes</td>
<td>56.00%</td>
<td>80.00%</td>
</tr>
<tr>
<td>Muscles and Ligaments</td>
<td>65.33%</td>
<td>75.56%</td>
</tr>
<tr>
<td>Embryology</td>
<td>38.00%</td>
<td>60.00%</td>
</tr>
<tr>
<td>Placenta</td>
<td>72.00%</td>
<td>73.33%</td>
</tr>
<tr>
<td>Structure ID</td>
<td>65.33%</td>
<td>77.22%</td>
</tr>
<tr>
<td>Neuroanatomy</td>
<td>68.00%</td>
<td>86.67%</td>
</tr>
<tr>
<td>Histology</td>
<td>4.00%</td>
<td>23.33%</td>
</tr>
<tr>
<td>Overall scores</td>
<td>54.50%</td>
<td>74.80%</td>
</tr>
</tbody>
</table>

Table 1: Percent correct for pre- and post-tests by anatomical category.

NEW TARGETED E-MODULES:
Expansion of e-module curriculum designed with an embryological and histological focus (Figs. 1-3).

Preliminary Results

New e-modules were created: 1) Ultrasound in Pregnancy using Embryological Knowledge 2) Pregnancy Timeline and the Embryo and 3) The Cervix in Health and Disease. Once finalized, these e-modules will be live on the Himmelfarb Library website.

E-Module Design:
• Pre-test questions assess baseline knowledge
• Learning objectives focus adult learners
• Anatomy content uses pertinent images/diagrams
• Clinical content incorporates medical knowledge
• Post-test questions assess e-module retention

FUTURE DIRECTION: By further expanding the number of e-modules available to students, we hope to improve retention of clinically relevant anatomical knowledge in adult learners.

Acknowledgements

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Fig 1: Ultrasound in Pregnancy using Embryological Knowledge

Fig 2: Pregnancy Timeline and the Embryo

Fig 3: The Cervix in Health and Disease

Conclusion
