IRON DEFICIENCY ANEMIA IN CHRONIC KIDNEY DISEASE: EDUCATIONAL EFFECTS FROM A CASE-BASED ONLINE INTERVENTION

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INTRODUCTION

Anemia is a common complication of chronic kidney disease (CKD) although its etiology is multifactorial and related to low ferritin, decreased erythropoietin production, inflammation, and the accumulation of uremic toxins. Therapy associated with anemia is costly, morbidity exists, and adverse events (e.g., cardiovascular disease) occur in patients with CKD. The management of CKD-related anemia is therefore essential to improving patient outcomes, cardiovascular outcomes across a variety of cardiac disease states and increased direct healthcare costs.

METHODS

The effectiveness of an online case-based educational intervention focusing on the evaluation and management of anemia in patients with CKD was assessed using a pre-assessment/post-assessment study design.

Educational Intervene

The educational intervention consisted of a video conference discussion, with expert content provided in a video format, significant learning opportunities for learners. Each video was made available on conference-cast.com/ASN/common/media-player.aspx/12/37/42/236. The video conference discussion was moderated by Dr. Babitt, who provided in-depth analysis of the patient cases and relevant literature. The video conference discussion was followed by a quiz-based assessment to test learners’ knowledge and understanding of the material presented.

Assessment Method

The study design comprised each participant's responses to an online case-based exercise and a post-assessment evaluation with the same participant's responses to the same questions asked in the video conference discussion. The post-assessment evaluation was sufficiently rigorous and stringent to ensure accuracy and reliability. Learners were not allowed to re-attempt the quiz if they failed to achieve a passing score.

For each question, learners were asked to select a response from a list of options. The list of options included correct and incorrect responses. The correctness of learners’ answers was determined by comparing their responses to the correct answer provided in the quiz. The correctness of learners’ answers was calculated for both t-test (for small effect sizes) and ANOVA (for large effect sizes). The educational intervention consisted of a video panel discussion activity for nephrologists and primary care physicians, with a focus on the management of anemia in patients with CKD. The intervention was designed to improve learners’ knowledge and understanding of the material presented.

HYPOTHESIS

An online educational intervention for online learners with knowledge gaps in the area of evaluation and management of anemia in patients with CKD.

RESULTS

For hemoglobin (Hgb) and serum ferritin (SF) values, participants who participated in the online activity and completed both pre- and post-assessment educational questions, completed comparison of responses to previous and post-assessment educational questions, and completed comparison of responses to previous and post-assessment educational questions. Only participants who completed both pre- and post-assessment educational questions were included in the analysis.

A CASE-BASED ONLINE INTERVENTION: IRON DEFICIENCY ANEMIA IN CHRONIC KIDNEY DISEASE: EDUCATIONAL EFFECTS FROM A CASE-BASED ONLINE INTERVENTION

Primary Care Physicians (n = 214)

Table 1: Participant Response Categories

<table>
<thead>
<tr>
<th>Question</th>
<th>Correct Response</th>
<th>Correct Response %</th>
<th>Pre-Assessment</th>
<th>Post-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>A</td>
<td>75% (163)</td>
<td>87% (189)</td>
<td></td>
</tr>
<tr>
<td>Question 2</td>
<td>A</td>
<td>71% (152)</td>
<td>87% (189)</td>
<td></td>
</tr>
<tr>
<td>Question 3</td>
<td>A</td>
<td>65% (139)</td>
<td>82% (177)</td>
<td></td>
</tr>
<tr>
<td>Question 4</td>
<td>A</td>
<td>65% (139)</td>
<td>82% (177)</td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSIONS

As a result of participation in the case-based educational activity, significant improvements in knowledge and understanding of iron deficiency and management of anemia in patients with CKD were observed.

ACKNOWLEDGMENTS

The authors would like to acknowledge the contributions of our team members for their dedication and hard work in developing this educational intervention. The authors would also like to thank the participants for their valuable feedback and insights.

REFERENCES


