Is my patient non-compliant or do they have low literacy skills?: A case report
Christina Ritchey, MS RD CNSC  Optum Infusion Pharmacy, Houston, TX

Background
One in five U.S. adults, or 21% have low literacy skills. Literacy is the ability to understand, evaluate, use and engage with written texts to participate in society, to achieve one's goals, and to develop one's knowledge. Home parenteral nutrition (HPN) patients with low literacy skills may be labeled as non-compliant if they are unable to follow their prescription, have negative outcomes, or are readmitted back to the hospital. Studies show a correlation between low literacy and the impact on healthcare costs. Patients with low literacy skills had poorer health, higher hospitalization rates and higher health care costs.

Purpose
The purpose of this study is to examine the effect of low literacy on compliance for a home infusion patient.

Methods
A 62 year old male with a high output enterocutaneous fistula (ECF) was readmitted for acute kidney injury (AKI) related to dehydration, then referred to a national home infusion provider for HPN. The patient had been with another provider and nursing agency, neither wanted to resume care due to reported non-compliance. The new HPN team reviewed the case, accepted the patient on service and set up nursing. The infusion nurse met with the patient in the hospital to complete an assessment, review expectations and provide education regarding administration of HPN. He verbalized understanding, performed return demonstration, and discharged home. After 7 days, he was readmitted because the nursing agency was unable to provide supplies for the ECF. He was set up with a new agency and sent home with HPN, intravenous (IV) antibiotics, and IV hydration. The infusion nurse provided education regarding administration of all therapies. Within 3 days, the nursing agency reported the patient had 5 doses of IV antibiotics, 0 doses of IV hydration and was not sure if he was administering HPN correctly. During the nutrition assessment, the patient revealed to the dietician that he could barely read. He explained he accidentally infused multiple doses of hydration, missed the antibiotics and had difficulty hooking up the PN.

Results
The dietitian informed the nutrition support team of the patient's literacy challenges. The nursing agency provided additional hands-on patient education and daily visits to ensure the patient was infusing as prescribed. The dietitian reinforced education and reviewed HPN administration during weekly calls. The patient became independent, confident in his abilities and successfully administered all prescribed therapies at home without further readmissions to the hospital.

Discussion
HPN is a complex therapy requiring significant patient education, reinforcement and support for success. When additional IV medications are prescribed, complexity greatly increases with the likelihood that patients will have difficulty, especially with low literacy skills.

Conclusion
The home infusion team can be integral in identifying literacy barriers. The Single Item Literacy Screener (SILS) is a validated tool that may be useful in homecare. The SILS includes a single verbal question, identifies patients needing assistance reading health related materials, and could be utilized during the initial evaluation prior to HPN education. Additional research needs to be conducted on the HPN patient population to gain additional data on literacy skills. Understanding literacy levels can help determine the type of education needed and promote development of alternative forms of education.

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<tr>
<th>Literacy tool</th>
<th>Question</th>
<th>Response range</th>
<th>Scoring criteria</th>
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<tbody>
<tr>
<td>Single Item Literacy</td>
<td>How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacist?</td>
<td>1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always</td>
<td>Scores greater than “2” are considered positive, indicating some difficulty with reading printed health related material.</td>
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<td>Screener (SILS)</td>
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