

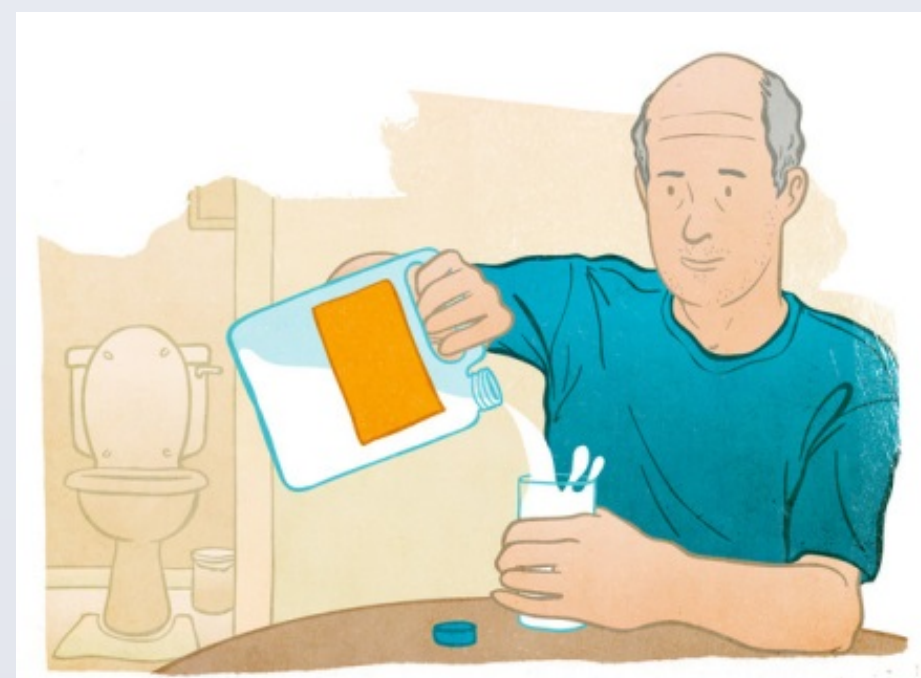
SCOPE OF THE PROBLEM

According to the Harvard School of Public Health, 40% of all colorectal cancers might be prevented if people undergo regular colonoscopy screening (Science Daily, 9/18/2013).



It is an appropriate nursing goal to assess the patient experience during screening colonoscopy, and evaluate patient comfort, and barriers to compliance, with preparation instructions.

A frequently voiced barrier to patient compliance, prior to colonoscopy, is the use of the split-dose prep, commonly prescribed in two doses - the night before the procedure, and in the early morning hours 4-6 hours prior to procedure time. Endoscopy nurses commonly try to answer the question raised by patients: “Why do I have to get up so early in the morning, and lose sleep, just to endure this awful prep?”



PICO Question

Asking the right question is fundamental to the evidence-based decision making process.

In screening colonoscopy patients (P), does split-dosing of prep laxatives (I), compared with standard dose prep laxatives (C), lead to better visualization of the colon (O)?









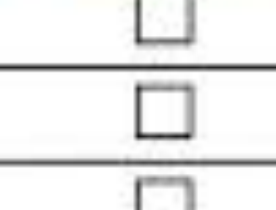
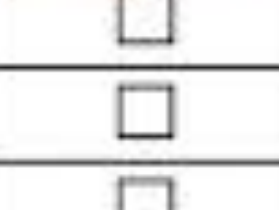
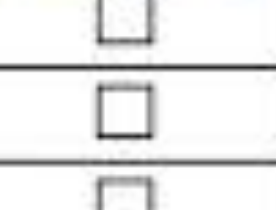
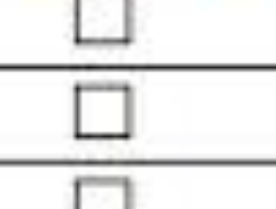
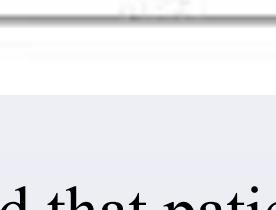
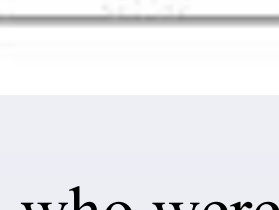
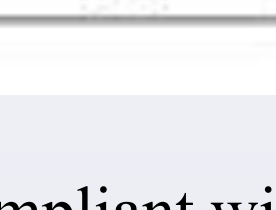
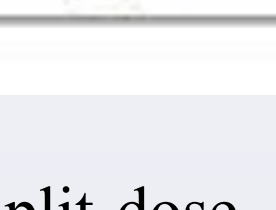
» **PICO Defined:**

- » **P - Population or problem**
- » **I - Intervention**
- » **C - Comparison**
- » **O- Outcome**

The purpose of this PICO question is to assess the evidence for “why” split dosing is performed. Having this question answered will be an essential part of nursing education for patients prior to colonoscopy. Patients undergoing colonoscopy have been found to follow instructions 85% of the time. Sharing education about the efficacy of split-dose prep can help to ensure and improve this percentage.

REVIEW OF THE LITERATURE

Menees and colleagues (2014) offered a prospective study of 463 participants undergoing screening colonoscopy in a tertiary center. Patient surveys were used (pre-procedure) to assess preparation info that was given to clients, prep activities prior to study, and prep activities day of procedure. The endoscopists graded the bowel prep using a validated tool, the BBPS (Boston Bowel Preparation Scale) (Mittal, 2010).

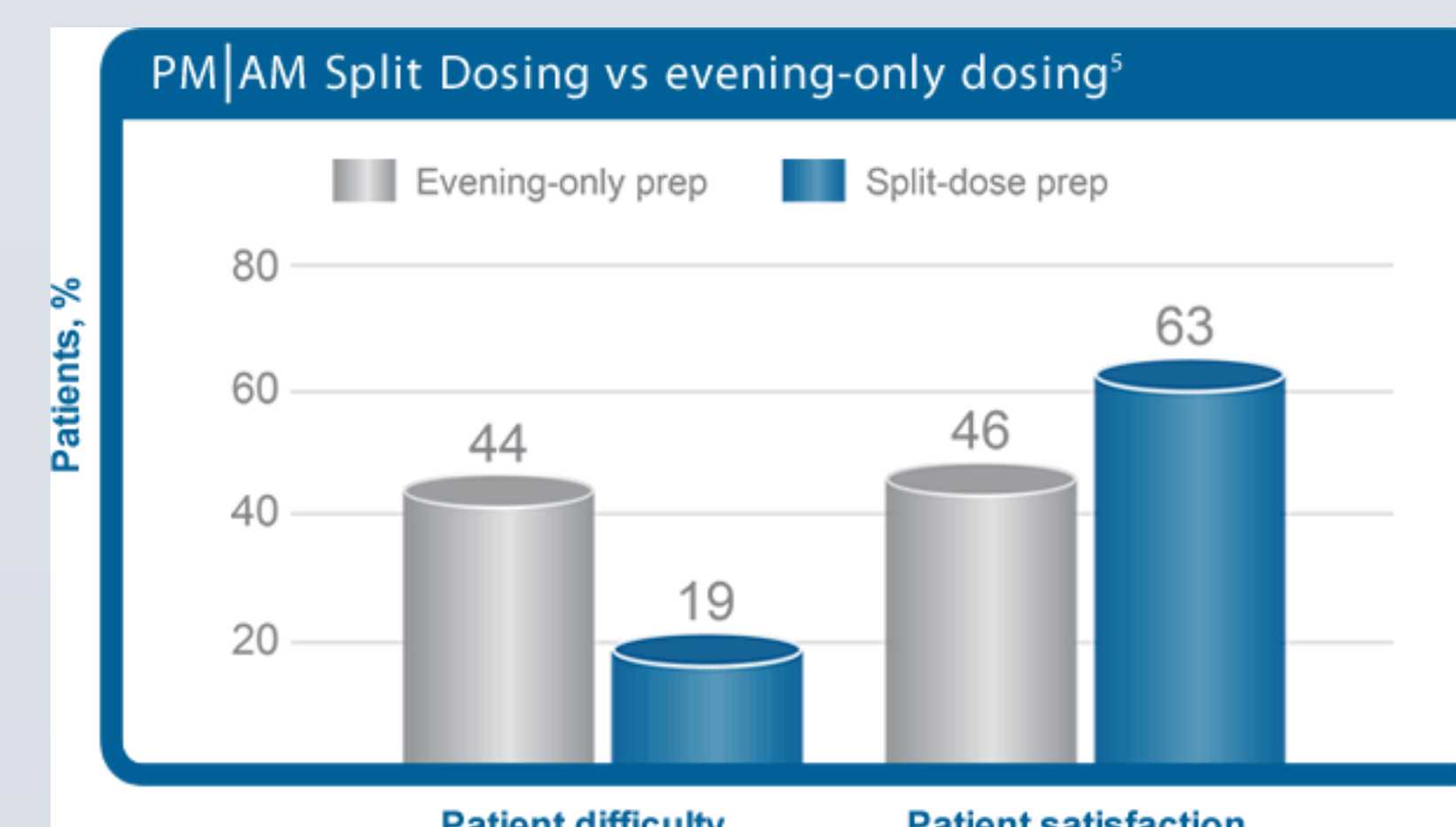
BBPS	3	2	1	0
3=Excellent				
2=Good				
1=Poor				
0=Inadequate				
LC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BBPS=	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The authors found that patients who were compliant with split-dose prep regimen had an 87.5% optimal cleansing score based on the BBPS, and compliance with split-dose prepping was reported higher than expected. The authors also concluded that practitioners’ concerns about patient compliance are unfounded. Patients reported excellent compliance with the split-dose instructions. “Participants may have wanted to present themselves in the best light, which may have increased reports of compliance”(Menees et al., 2014).

A European study by Kojecy and associates is included for direct comparison of single vs. split-dose preparation. This well-designed study had a total of 600 patients enrolled in a prospective, endoscopist-blinded, randomized multicenter trial. The researchers concluded that “Satisfactory bowel cleansing was significantly more frequent when a split dose was used, irrespective of the solution type” (Kojecy et al., 2014).



Kojecy also studied the optimal PC (preparation - to - colonoscopy) interval; and concluded that the use of split-dose prep within 3-5 hours of the procedure provided optimum cleansing.

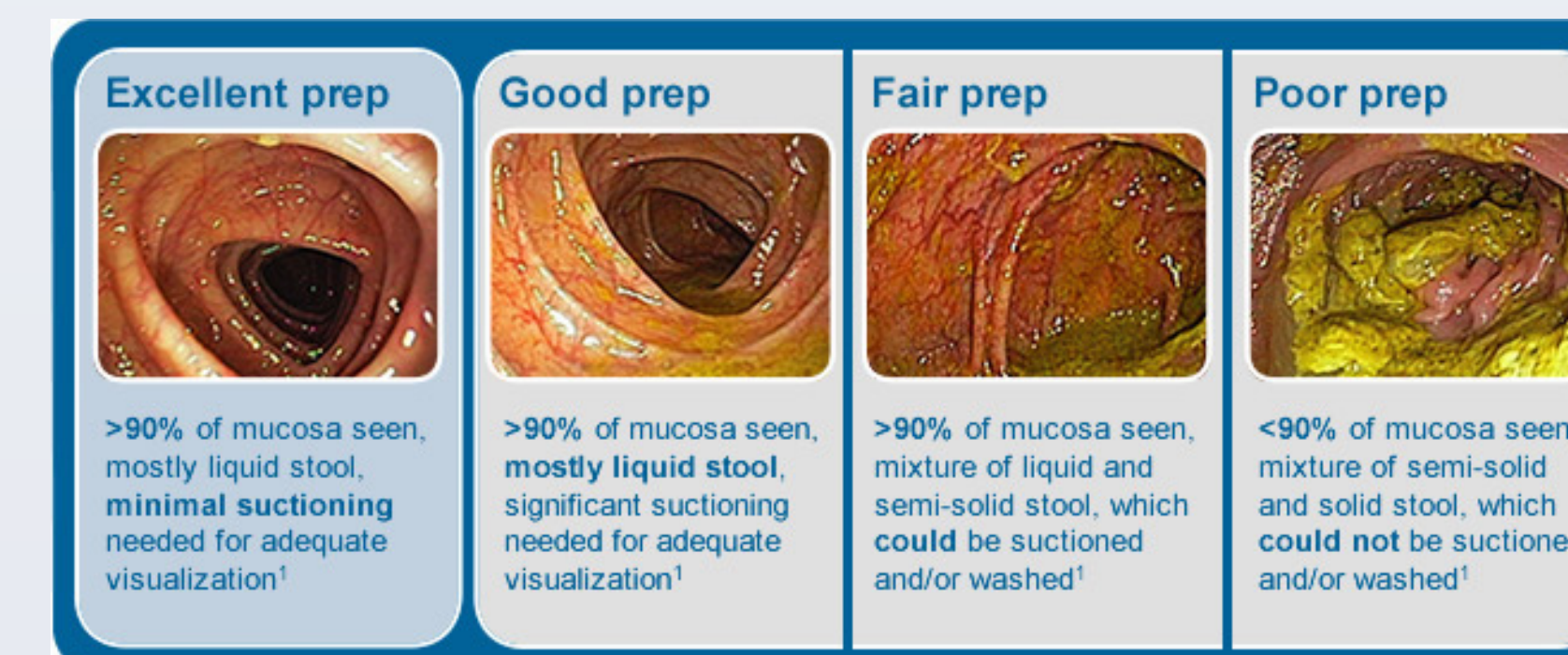


REVIEW OF THE LITERATURE

Rex et al. (2013) performed a study on 601 patients across a wide setting of university hospitals, academic medical centers, and private clinics across the United States. Interesting results from this study came from their inclusion of comparison percentages for portions of the colon cleanliness. Split-dose prep had a significant improvement over single-dose prep, especially on the right side of the colon.

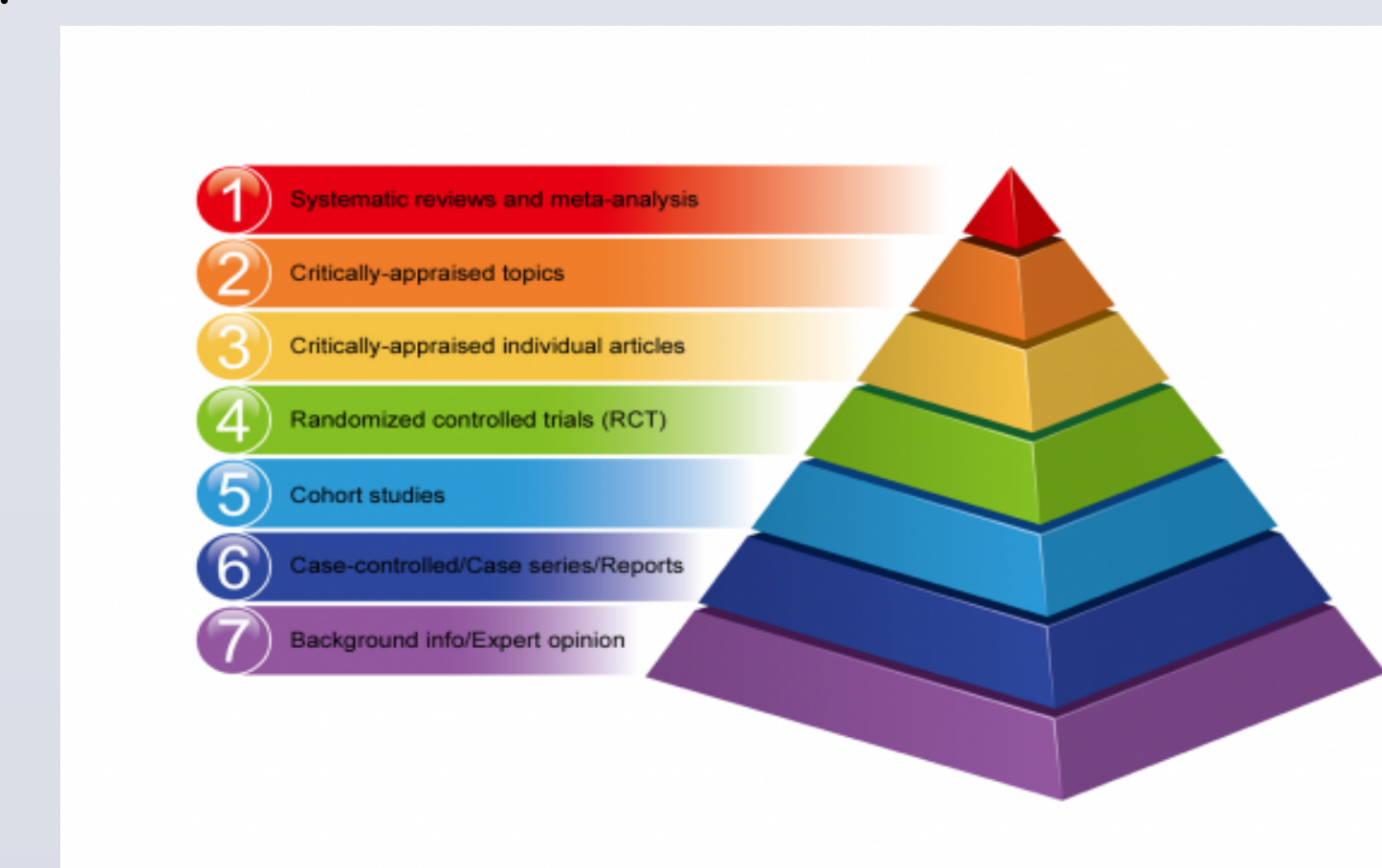


This is a particularly important finding because : “the right side of the colon is particularly difficult for finding flat polyps because of concealment by opaque small-bowel effluent. Thus, the bowel preparation quality of the right side of the colon is more important than other colon segments in determining the adenoma detection rate, which increases the quality of the colonoscopy” (Seo et al., 2012).



Poor bowel preparation significantly lowers adenoma detection rates, particularly in the ascending colon. Adequate bowel preparation significantly improves detection rates of all adenomas (small, large and flat)(Aronchick, 2004) (Froelich et al., 2005).

A 2014 meta-analysis of the efficacy of split-dose colonoscopy prep included 29 randomized clinical trials in their study. **Overall, an adequate preparation was obtained in 85% of patients in the split-dose group and 63% of patients in the single-dose group.** The strengths of this study are the extensive search performed, and the inclusion of only randomized, controlled clinical trials. In addition, this meta-analysis focused strongly on the timing aspect of prep dosing. The authors provided strong evidence of the superiority of the split-dose regimen over the non split-dose regimen (Bucci et al., 2014).



Concluding this evidence-based practice review with this meta-analysis gives power to the true relationship of split-dose colonoscopy prep and the outcome of improved visualization of the colon.

CONCLUSION

The review of the literature reveals a strong affirmative answer to the PICO question: In screening colonoscopy patients (P) does split-dosing of prep laxatives (I), compared with standard-dose prep laxative (C) lead to better visualization of the colon (O)?

This provides the opportunity for enhanced patient teaching, solidly based upon the available evidence.



“We know how difficult it has been for you to arise so early to complete your colonoscopy prep. However, the evidence very strongly shows that this method of colon prep provides a much cleaner view of the inside of your colon. Your physician will be able to detect and remove polyps more easily, and there is less chance you will have to return early for another colonoscopy due to poor prep. Having a well-prepped colon will also help to decrease your procedure time and any potential post-procedure discomfort.”

RECOMMENDATIONS FOR PRACTICE

While there is sufficient evidence to support the affirmative answer to the PICO question, there is not as much evidence gathered to evaluate the entire patient response that includes increase in satisfactory experience.

This gap in knowledge could be fulfilled by further inquiry. “Fear, perceptions of pain, embarrassment, and medical mistrust have been found to be associated with colorectal cancer screening” (Bynum, Davis, Green, & Katz, 2011).

Identifying the anticipated barriers of discomfort, embarrassment, and fear of pain may have important implications for patient participation in colorectal cancer screening.

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