ABSTRACT

PURPOSE: The purpose of this study was to describe issues that WOC nurses find most important related to colostomy irrigation (CI).

DESIGN: This is an additional analysis of a study focusing on qualitative responses to a survey querying WOC nurses about CI practices.

SUBJECTS AND SETTING: The target population was members of the Wound, Ostomy and Continence Nurses Society. Of the 985 nurses who responded to the survey, 338 (34.3%) answered the optional open-ended question asking for additional comments.

METHODS: A 1-time online survey was conducted. In addition to demographic, educational information, and forced-choice questions about CI, an open-ended question asked for any additional comments about their experience with irrigation and WOC practice. Content analysis was used to identify common themes identified by WOC nurses.

RESULTS: Three hundred thirty-eight out of 985 WOC nurses (34.3%) answered the optional open-ended question asking for additional comments; analysis for this study is based on these responses. WOC nurses who responded to the open-ended question had similar characteristics to those who responded to the entire survey but were significantly more experienced (15.1 vs 11.0 years; P < .001). Multiple themes were identified that were related to forced-choice questions in the survey, such as equipment, lack of teaching time, and increased control, while several new themes emerged, including age-related recommendations, economic/ecologic benefits, cultural implications, and misconceptions of CI.

CONCLUSION: Many WOC nurses feel that CI is a valued modality of ostomy care and should be reestablished, although dissenting opinions were expressed. Additional research to increase the evidence base for this procedure is needed. New opportunities to educate WOC nurses and other healthcare professionals and teach eligible patients irrigation techniques are recommended.

KEY WORDS: cancer patients, colostomy irrigation, ostomy nurse attitudes, ostomy nurse knowledge, ostomy nurse practice.

Introduction

There were an estimated 39,610 new rectal cancer cases in the United States in 2015. Rectal cancer surgery will lead to a permanent colonic intestinal stoma (colostomy) in 10% to 35% of patients. Reasons for a permanent colostomy include close proximity of tumor to the anus, intraoperative difficulties, or comorbid conditions. Among patients with a permanent ostomy, the regulation and management of bowel elimination can be a long-term struggle that influences health-related quality of life long after the postoperative period. Management of bowel elimination may involve multiple strategies, including dietary changes, use of a pouching system, behavioral changes, and use of supplements and medications for...
control. Patients with sigmoid colostomies may benefit from irrigation as a means to control bowel evacuation.

Colostomy irrigation is an optional procedure used by patients with colostomies to regulate large bowel contents by stimulating emptying at a regular scheduled time. The process typically involves instilling 500 to 1000 cc of lukewarm water through the stoma using a cone tip catheter. Evacuation of bowel contents usually occurs within 30 to 60 minutes. The process is repeated every 1 to 3 days, depending on the individual. Once regulated, the stoma may be covered with a stoma cap or a small absorbent waterproof patch in lieu of an ostomy pouch between irrigations. A review of the literature shows professional opinion concerning colostomy irrigation (CI) has varied. Published reports tended to be descriptive and consisted primarily of small and large surveys of patients and nurses; nevertheless, most supported the practice of irrigation. For example, positive opinions include allowing patients to feel secure in social places and intimate situations, having less frequent pouch changes, and experiencing a general sense of enhanced freedom and bowel control, improved self-esteem, promoted a perception of being cleaner, diminished anxiety, and reduced odor. Negative factors included the time required to teach patients during today’s reduced postoperative hospitalizations, time required for patients to carry out irrigation at home, loss of flexibility due to the need to plan for irrigations, having less frequent pouch changes, and experienced the convenience of irrigation as a means to control bowel evacuation. Patients with sigmoid colostomies may benefit from irrigation as a means to control bowel evacuation.

■ Methods

The design and methods of the primary study have been described previously and are briefly summarized here. A 1-time online survey using SurveyMonkey (Palo Alto, California) was conducted with members of the WOCN Society. Human subjects approval of the study was obtained from the institutional review board at the University of Arizona. Since this was an electronic survey, implied consent was defined as anyone who answered the survey. The mailed survey consisted of 32 questions. Information gathered in the survey included demographic and education information on the respondents, irrigation attitudes and practices, and patient education challenges. The final optional question was open-ended: “Do you have any additional comments about your experience with irrigation and WOC practice?” Responses to this question are reported here.

Data Analysis

Content analysis of open-ended responses was carried out by the research team. At least 2 members of the research team coded each response. Coding results were discussed at team meetings and any discrepancies were resolved through discussion. Multiple themes that WOC nurses expressed in their responses were identified and used to develop a code book. Themes were further divided into 2 major categories: Common Themes related to content found in the forced-choice questions in the survey and Novel Themes that were not addressed in the forced-choice question found in the survey.

Results

Three hundred thirty-eight of the 985 nurses who responded to the online survey (34.3%) answered the open-ended question asking for additional comments. WOC nurses who responded to this final question had similar characteristics to those who did not respond to this question, except that they were found to be more experienced (15.1 vs 11.0 years; P < 0.001) and provided more CI teaching (94.7 vs 91.0%; P = .045) (Table 1).

Common Themes

Common themes (Table 2) included issues related to lack of professional education, too time consuming for patients, and need for a physician order to initiate CI teaching. A lack of professional education was seen as a problem for both physicians and nurses. There was clear controversy related to the need for physician orders to initiate CI teaching, where some nurses expressed that this is necessary, while others felt that it was not mandatory. Several respondents indicated that colostomy patients should be given the choice of whether or not to use CI, and others identified the increased control CI provides. Another common response included improvement of ostomy pouching equipment rendering pouching easier and improving quality of life. For example, pouches can now be filtered, odor free, and better designed for individual stomas making an overall improvement in lifestyle for persons with colostomies. In addition, several respondents stated...
that the overall equipment improvement has made irrigation less desirable.

Additional common themes included limitation of time available to teach patients about irrigation both in the hospital immediately following ostomy surgery and in the home after discharge, and the time required for patients to perform the irrigation. Comments included the lack of clinic space for teaching and having patients return to the clinic to demonstrate the procedure. One final common theme identified the need to resurrect CI practice; several respondents advocated the need for additional education on this topic.

Novel Themes
Multiple novel themes not found in our quantitative survey were identified by WOC nurses related to experience with CI (Table 3). Others commented that the need for irrigation teaching is influenced by age. Some WOC nurses commented that older persons with ostomies should not be offered CI teaching, while younger patients would like the increased control and should have this teaching as part of their care. In contrast, one respondent commented that a younger person with a busier lifestyle is less likely to choose irrigation due to her or his active lifestyle as compared to the older persons with colostomies who have more time to irrigate. Spinal cord–injured patients were identified as a population where CI was commonly used as part of a regular bowel program.

Several WOC nurses commented on the potential economic benefit of CI resulting in fewer supplies, along with the possible ecologic benefit with less disposable equipment. Another theme focused on cultural implications with the quote describing how various cultures differ in their attitude toward CI. Some respondents stated that they tried to dissuade patients from using CI.

A number of statements were identified that are not supported by existing research. These included assertions that CI causes hernias when practiced over a period of years. Another stated that patients could not start CI and then discontinue the procedure at some point in the future if desired.

Multiple comments were provided that centered on the theme of teaching methods and resources. Comments provided recommendations on resources available. Several respondents also provided step-by-step recommendations for effective CI instruction, resources, and ways to approach patients (Table 4).

Discussion
Colostomy irrigation has been used for many years, but its use has declined. The decline in the use of irrigation may be related to the advent of improved pouching systems, lack of professional education, and difficulty in finding appropriate patient-teaching time and location. Respondents in this study suggested that irrigation is often forgotten by some WOC nurses and they further advocated enlisting aid from their professional society (WOCN) in reintroducing this management strategy into daily practice.

Themes identified in this qualitative analysis are consistent with results of prior studies. Two of the themes identified in the Common Themes were Improved Equipment and Increased Control. These findings are consistent with those of Hayes, who reported multiple benefits of CI, including regaining of confidence, earlier
### Table 2. Common Themes Included in Other Survey Questions

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example</th>
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<tbody>
<tr>
<td>1. Lack of professional education</td>
<td>“…I worry that I’m not presenting it properly.”</td>
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<td></td>
<td>“I know many WOCNs are not sure how to do an irrigation for bowel regulation and this leads to reluctance to teach patients.”</td>
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<td></td>
<td>“There should be clearer guidelines and standards of practice about CI specifically from WOCN….would like to know exact correct procedure.”</td>
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<td></td>
<td>“MD ignorance an issue. I have had hospitalists ask for psychological evaluation of patients who were not using a pouch because they did not understand that irrigation was an acceptable alternative and the patient did not need to wear a pouch.”</td>
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<td>“There is a definite trend to not have patients irrigate. Used to be we taught everyone with an APR to irrigate; now, people are only taught if they express an interest. I know many WOCNs are not sure of how to do an irrigation for bowel regulation and this leads to reluctance to teach patients (my opinion—no stats to back me up)”</td>
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<td></td>
<td>“I do not have a lot of recent experience in educating patients on irrigation, but would be very interested in learning more about this practice.”</td>
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<td>“Have not made irrigation a focus in practice due to time and lack of knowledge.”</td>
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<td>2. Too time consuming for patient</td>
<td>“Many of my patients, even though they are well over 65 are working and the time commitment is too much.”</td>
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<td>“I find that most of my patients do not want to commit to the time that it will take.”</td>
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<td>“Most patients do not want to irrigate due to the time it takes to irrigate. They use closed-end pouches and throw them away.”</td>
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<td>“Mostly it is time prohibitive in today’s busy world.”</td>
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<td>3. Need for physician order or recommendation</td>
<td>“Clearer guidelines needed on whether CI needs an MD order.”</td>
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<td>“Physicians are not ordering ostomy irrigations. Irrigations have not been ordered in my facility in over 15 years.”</td>
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<td>4. Patient choice</td>
<td>“Every colostomy patient deserves to know that irrigation is an option. Present the facts to them and let them decide if they would like to try irrigation.”</td>
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<td>“(I) think we should be more active in teaching this so at least it gives patients a choice.”</td>
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<td></td>
<td>“It’s a choice not a requirement.”</td>
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<td>5. Improved equipment</td>
<td>“Pouching systems we have today are much superior to what was available to patients 30 years ago.”</td>
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<td>“Closed end, odor free, filtered pouches (overall improvement in pouching system) make irrigation less desirable.”</td>
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<tr>
<td>6. Increased control</td>
<td>“The ostomates that I assist that practice colostomy irrigation voice very active lives and appreciate freedom irrigation provides.”</td>
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<td>“Patients who work are most receptive to irrigation to control their output.”</td>
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<td>“Many of my patients love irrigation and the control it gives them, usually works better for the younger perm. colostomy”</td>
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<td>7. Resurrecting irrigation practice</td>
<td>“WOCN need to bring irrigation back into practice.”</td>
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<td>“Would like to see a presentation at the national WOCN meeting.”</td>
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<td>“Has been out of vogue for about a decade, but we started being more aggressive in teaching irrigation over the past 2 years. When taught appropriately, it can be life changing.”</td>
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<td>8. Lack of time for teaching and lack of care coordination</td>
<td>“Hospital stays are so brief and we are not permitted to see patients as outpatients.”</td>
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<td>“There is typically not enough time to discuss this in the immediate post op period in the hospital. I don’t want to overwhelm people by teaching them about this right off the bat.”</td>
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<td>“Generally ostomates are not ready or interested to learn while in the hospital. Also time does not allow for in-hospital teaching. Most rely on Home Health and/or outpatient clinics to teach and they rarely are allowed the time to teach either.”</td>
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<td>“Patients get lost in the transition. There is no time post op, we are lucky if there is stool to teach to empty. Then unless they go to home health with a WOCN who offers.”</td>
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TABLE 3.
Novel Themes (Not Queried Within Force-Choiced Survey Items)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example</th>
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| 1. Age-related recommendations    | "Younger active patients prefer CI which gives them increased control."
issues                 | "Age of population extremely important. I work with very elderly cliental average 82. Not necessarily the best population for irrigation in my experience."
| 2. Spinal cord injury             | "Many SCI (spinal cord injury) like the predictability and control CI can offer. Patients prefer CI to their previous bowel program: it gives them back control."
|                                  | "I have a longstanding experience as a rehab nurse specializing in neurogenic bowel and bladder. Colostomy irrigation is the equivalent of a bowel program for an SCI pt."
| 3. Economic impact                | "There may be a financial advantage to CI versus using lots of pouches/supplies."
|                                  | "If I had a colostomy, I would irrigate. Today, the cost savings alone would make it worth the try."
| 4. Ecologic impact                | "Using CI is better for the environment (fewer vinyl in landfills, etc.)."
|                                  | "...Irrigation is ecological."
| 5. Cultural implications          | "In Australia there was more of an interest especially with ostomates who work, have families, or singles looking to start a relationship."
|                                  | "In Saudi Arabia the bowel cancer patients are more advanced and the issue of religion and cleanliness seems to be a barrier, they tend to get used to the pouch. There aren’t any patient associations at present and therefore peer support is difficult. "...It seems healthcare systems in more developed countries tend to consider it a waste of time and prefer use of a pouching system. Asians and less developed areas are more likely to prefer irrigation. I think this may have some basis in religious attitudes concerning cleanliness as well as availability of supplies.... One surgeon from India routinely orders irrigation; none of the other do."
| 6. Discouraging patients          | "I think it is largely unnecessary if I do my job well. I never teach it unless a patient specifically asks and I usually try to dissuade them, offering better alternatives instead."
|                                  | "I have always felt irrigation breeds problems. I will teach it only if forced to by the patient or HCP. In all my years of practice I have talked people out of irrigation is they want to irrigate. I will get people off the irrigation ‘habit’ if possible."
| 7. Misconceptions                 | "Saw many patients who irrigated for years develop hernias."
|                                  | "Once irrigating colostomy the patient cannot stop irrigating."
|                                  | "Over the many hears that I have been doing ostomy care, there are far less permanent colostomies being done and there are many more temporary ostomies done and irrigation has become less important to patients and many patients also feel that irrigation is a bother."
|                                  | "Most of the time patients have a hard time just learning to deal with the appliances and the alt body image, then they read somewhere that they can do irrigation and not ever have to wear an appliance again. They ask to be educated and despite the education they come back or call repeatedly because the irrigation does not go as expected and they have leaking stool."
|                                  | "I feel that irrigation is not healthy for the body and if it was, so would giving someone an enema daily."
|                                  | "Some nurses believe irrigation is only within the scope of WOC nurses."

rehabilitation, and reduced pouch usage. Rooney13 writes from a personal standpoint, describing the tradeoff of 1 hour a day for freedom from having to wear an appliance, emptying an appliance throughout the day, and not having any fecal odor. In a survey of 39 patients regarding CI, 15 of the patients (38%) were irrigating daily.13 Positive aspects identified by 2 groups of patients included feeling secure in social events, having an empty pouch, and less frequent changes, better bowel control, a feeling of freedom, feeling clean, confident during intimacy, less anxious, and reduced odor. While fewer than half of the patients interviewed used CI, those who did were very satisfied with CI.

Some respondents commented that success with CI is influenced by age. Some opined that physically active, younger patients are more likely to benefit from CI by enabling them greater control over the timing of bowel evacuation. In contrast, other respondents opined that younger and more physically active persons with end colostomies are less likely to benefit from CI as compared to older persons owing to the time required to complete the procedure. In reports by ostomy nurses, age was identified as a cause for failure of CI and that it was the aging process that makes CI difficult.8 Rooney13 identified the need for good hand-eye coordination, which could be a factor for older age being a contraindication for CI.
Respondents voiced concerns that they were unable to present CI education properly. These concerns were attributed to lack of education about CI and fear of instruction based on inaccurate information. Respondents also stated that clearer guidelines for CI are needed. In contrast, several respondents provided specific step-by-step procedures for CI, and they identified written and online video-based resources for teaching CI. These recommendations were found in publications that provided specific recommendations for teaching CI.12,13

The interesting additional themes of economic and ecological factors are thought-provoking. The financial advantage to CI versus pouching supplies could make a significant economic impact to many persons with colostomies. As healthcare costs continue to escalate and patients may need to pay increasing out-of-pocket charges, medical expenses must be part of care decision-making. Comments related to ecologic aspects of CI centered on appropriate equipment including a cone tip. Contraindications to CI include a hernia, irritable bowel syndrome, or serious heart and kidney disease.6,8,12,13 In addition, instruction on the skills needed to teach irrigation should be included. This education should also address misconceptions about irrigation identified in our study. While irrigation may not be introduced following the surgery that created the colostomy (due to shortened stay, low energy level, and perineal discomfort), referral should be made to an outpatient ostomy nurse for future instruction. Further research is needed on the procedure itself as well as successful patient teaching content and methods.

We further recommend that the WOCN Society advocate that WOCNEP programs teach CI and use Management of the Patient With a Fecal Ostomy: Best Practice Guideline for Clinicians18 as a resource for both novice and experienced new practitioners. Additionally, there is a need to help WOC nurses identify if and when a physician order is needed for irrigation. We also advocate provision for adequate time and clinic space to present and teach CI.

**Limitations**

A limitation to our findings is that only one third of the nurses surveyed (34%) responded to the open-ended question asking for additional comments. In addition, our findings are based on written comments, and no interview data were part of the study. A study that involves in-depth interviews of experienced WOC nurses could provide a more comprehensive view of CI and provide indications for future research as well as practice issues. Our study focused only on comments from WOC nurses. In-depth interviews of patients, some who use CI, some who have used it and quit, and some who have never used CI, could provide valuable data on the practical issues associated with CI. Because our findings present so many strong feelings both for and against CI, the need is clear for follow-up and more in-depth information from patients and professionals.

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**TABLE 4. Teaching Tips, Methods, and Resources**

| [When] patients have recommended supplies then they are instructed to make/set up 3 outpatient visit. 1. Initial irrigation teaching—CWOCN performs procedure. 2. Patient performs procedure with nurse coaching and helping. Discuss outcomes from previous day. 3. Patient return demonstrates all skills independently. Pt taught about how to care for and store equip. And review supplies, replacements, reorder and diet adjustments.* |

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*“I have the wonderful opportunity to follow patient from pre-op interview, through hospital stay and follow-up in out-patient clinic to teach and assess response! It has become a major focus for me to pursue it with appropriate patients.”

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*“Has been out of vogue for about a decade but we started being more aggressive in teaching irrigation over the past 2 years. When taught appropriately, it can be life changing!”

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*“If the colostomy is permanent and the patient is motivated, I tell them the advantages. I also tell them that if I had a colostomy, I know I would irrigate.”

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*“Ostomate can be referred to YOU TUBE to view procedure which is excellent.”

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*“I find that the “older ostomates” are a great resource in helping a new one learn irrigation so [our] local ostomy group provides telephone buddies”

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*“Should have some type of literature in discharge instruction to mention this as a possibility and need to contact a WOCN for further information.”

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*“I base the schedule somewhat on the patient’s prior bowel patterns. For some people, every other day works well, but the majority are daily.”
■ Conclusions

Colostomy irrigation remains an optional procedure for persons with an end ostomy. It has clear advantages and clear disadvantages. It provides freedom from evacuation between irrigations but is a skilled procedure that is time consuming. Preparation of WOC nurses to teach patients is limited by time, space, knowledge, and experience.

■ ACKNOWLEDGMENTS

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■ References