

Use of a validated survey instrument to assess functional outcomes of rectal cancer treatment in a community hospital setting

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Background

- Almost 40,000 new cases of rectal cancer will be diagnosed in 2017 in the United States.
- Most patients with locally advanced or node-positive disease will undergo multimodality therapy including chemoradiation and surgery, which can lead to bowel, urinary, and/or sexual functional difficulties.
- These post-treatment issues are common and may occur months to years after completion of treatment.¹
- In the absence of a true multidisciplinary clinic, follow up for diagnosis and intervention for post-treatment side effects may be challenging.
- We hypothesized that use of a previously validated survey tool to screen for bowel, urinary, and sexual functional difficulties would allow early identification of patients with symptoms and provide an opportunity for intervention.

Patients and Methods

Study period: February 2012 to July 2017.

Patient population: The patient population included all patients undergoing rectal resection (low anterior resection and abdominoperineal resection) by a single surgeon (KLC) during this time period. The majority of patients underwent surgery for malignant disease; patients with benign disease were included to provide a larger population for analysis.

Intervention: At 3 and 12 months after surgical resection (or reversal of ostomy, if present), 22 patients were provided with a two-page survey (see below). The remaining 10 patients had undergone surgery more than 3 months prior to initiation of the survey protocol, and these patients were offered a survey on a single occasion shortly after protocol implementation. The survey was modified from the EORTC (QLQ-CR29) validated questionnaire² and contained questions relating to GI, GU, and sexual dysfunction (figure 1). Symptoms were rated on a 4-point Likert scale ranging from “not at all” to “very much”

Identification of functional issues requiring further investigation or treatment was at the discretion of the physician and was based on survey response in the context of the patient’s history. Generally, a response of “3” (corresponding to “quite a bit”) to any of the symptoms listed would prompt further discussion with the patient and offer of intervention. Interventions included referral to gastroenterology, urology, WOCN, or physical therapy.

Surveys were provided to patients at the time of their appointment, if they had a follow-up visit around the time a survey was due, or by mail if they did not. Follow-up phone calls were conducted when necessary to obtain survey responses. Surveys not completed by two months the survey was initially provided were considered delinquent.

Analysis: Basic descriptive statistics only were used.

Patients and Methods, continued

Bowel Function:	Not at all	A little	Quite a bit	Very Much
	1	2	3	4
If you DO NOT have a stoma and bag:				
Do you experience...				
Chronic persistent diarrhea?	1	2	3	4
Increased stool frequency?	1	2	3	4
Perianal irritation?	1	2	3	4
Decreased stool?	1	2	3	4
Incomplete evacuations?	1	2	3	4
Pain in your buttocks/anal area/rectum?	1	2	3	4
If you have a stoma and bag:				
Do you experience...				
Any leakage of stools from the bag?	1	2	3	4
Unintentional release of gas from the bag?	1	2	3	4
Embarrassment because of your stoma or bag?	1	2	3	4
Problems caring for your stoma or bag?	1	2	3	4

Figure 1: modified EORTC (QLQ-CR29) survey provided to patients undergoing rectal surgery at 3- and 12-months post-op.

Urinary Function:	Not at all	A little	Quite a bit	Very Much
	1	2	3	4
Do you experience...				
Unintentional urinary leakage?	1	2	3	4
Pain when urinating?	1	2	3	4
Straining when urinating?	1	2	3	4
Weak urinary stream?	1	2	3	4
Did you experience any of these problems prior to your rectal surgery? Yes/No				
If yes, please indicate the problem and extent:				

Sexual Function:	Not at all	A little	Quite a bit	Very Much
	1	2	3	4
If you are not sexually active, please circle:				
N/A				
Men, do you experience...				
A decrease in your sex drive?	1	2	3	4
Difficulty maintaining an erection?	1	2	3	4
Women, do you experience...				
Painful intercourse?	1	2	3	4
Changes in genital arousal and lubrication?	1	2	3	4
Altered orgasms?	1	2	3	4
Did you experience any of these problems prior to your rectal surgery? Yes/No				
If yes, please indicate the problem and extent:				

Results

During the study period, 32 patients were offered one or more surveys. The average age was 59. 19 of 32 patients (59%) were male. 26 patients (81%) underwent low anterior resection; the remaining 6 patients underwent abdominoperineal resection.

28 of 32 patients (88%) had malignant disease. 9 of these (32%) had stage I disease, 9 (32%) had stage II disease, 3 (11%) had stage III disease, and 7 (25%) had stage IV disease. Of the 28 patients with rectal cancer, 8 patients (29%) underwent pre-op chemotherapy, 7 patients (25%) underwent pre-op radiation, 14 patients (50%) underwent post-op chemotherapy, and 5 patients (18%) underwent post-op radiation.

During the study period, 21 patients (66%) returned at least one survey. Of 51 total surveys offered to the study group, 29 were returned (57%). 12 of the 29 surveys (41%) were completed during a follow-up visit, while 17 (59%) were returned by mail.

Figure 2 shows the distribution of patients scoring ≥ 3 on at least one survey item (on one or both surveys) in one or more domains, with the age and gender of the patient indicated.

Results, continued

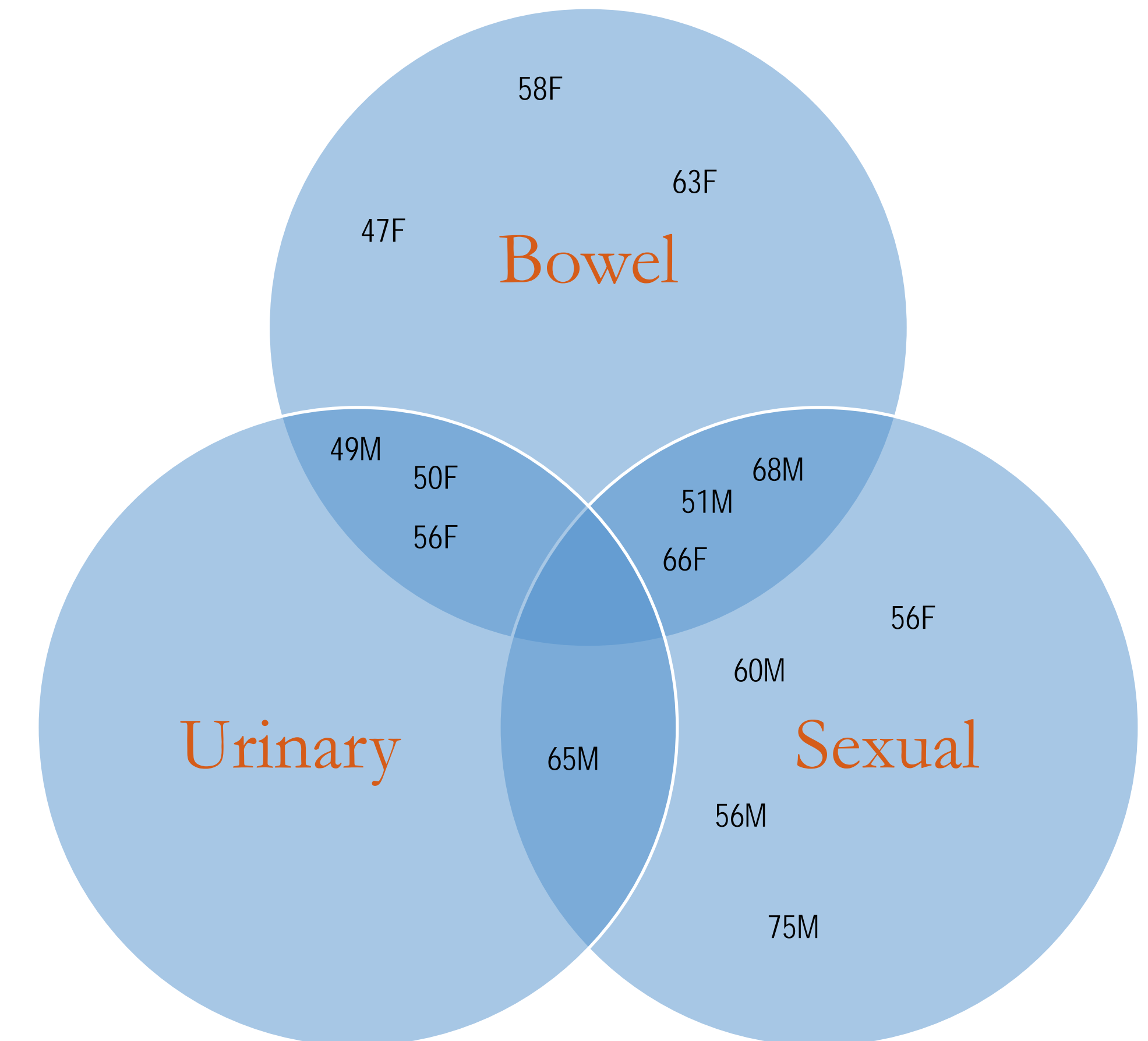


Figure 2: Age and gender of patients reporting significant deficits in one or more functional domains at all time points.

A total of 12 out of 21 patients who returned at least one survey (57%) were offered interventions for reported functional deficits. 5 out of the 12 (42%) accepted.

Conclusions

- This is a small study with several limitations including lack of a control group and no formal process to screen for pre-treatment functional deficits in the domains of interest.
- A larger study might be better able to quantify the impact of the survey tool on the timely diagnosis of, and intervention for, post-treatment functional issues; but ultimately the utility of the tool will be largely determined by institution-specific factors (e.g. presence of a multi-disciplinary clinic or personnel dedicated to survivorship care).
- In our community hospital, the survey tool was a useful adjunct to scheduled follow-up visits and facilitated recognition of clinically significant functional deficits and provision of interventions to address these.

References

- Wiltink LM, Chen TY, Nout RA, Kranenbarg EM et al. Health-related quality of life 14 years after preoperative short-term radiotherapy and total mesorectal excision for rectal cancer: report of a multicenter randomised trial. Eur J Cancer 2014; 50: 2390-2398
- <http://groups.eortc.be/qol/>