Psychosocial factors and treatment satisfaction after radical prostatectomy

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Background Sexual and urinary side effects of prostate cancer treatment have been well described in the literature, but less is known about the psychosocial effects of prostate cancer treatment.
Objective To prospectively evaluate physical and psychosocial functioning after diagnosis of prostate cancer and factors associated with treatment satisfaction after prostate cancer treatment.
Methods Patients diagnosed with prostate cancer at a university-based urology department were invited to participate in this internet-based study. Validated questionnaires were used to evaluate health-related quality of life (HRQoL) domains at pretreatment baseline following diagnosis and at 1, 3, 6, and 12 months after treatment. Domains of HRQoL included sexual, urinary, and bowel functioning; anxiety and depression; and sleep disturbance, pain, and fatigue. Linear repeated measures models were used to examine changes in self-reported measures at each time point.
Results Of 105 men diagnosed with prostate cancer enrolled in the study, 54 completed assessments through 12 months. Decreased erectile function and sexual HRQoL following treatment were not significantly associated with worse treatment satisfaction over time. Instead, treatment satisfaction was significantly associated ($P < .01$) with anxiety (r, .28-.60), depression (r, .32-.48), fatigue (r, .40-.56), pain (r, .32-.61), sleep disturbance (r, .51-.59), and bladder problems (r, .41-.63).
Limitations Not all patients were enrolled or completed all longitudinal questionnaires, which may bias the results because of unmeasurable factors. We were not able to identify improvements or declines in HRQoL more than 12 months after treatment.
Conclusions Despite declines in erectile function and sexual domains, treatment satisfaction was more closely related to emotional, psychosocial, and nonsexual effects. The findings underscore the importance of assessing HRQoL outcomes beyond physical functioning, which can yield opportunities to improve satisfaction.

More than 164,690 men are expected to be diagnosed with prostate cancer in the United States in 2018.[1] Men with prostate cancer face not only stress associated with the diagnosis but also decisional conflict regarding different treatment options.[2] Most men diagnosed with clinically localized prostate cancer receive 1 or more of the following treatments: radical prostatectomy, external-beam radiation therapy, and/or brachytherapy, all of which are associated with posttreatment urological or sexual side effects including bowel, urinary, or erectile dysfunction.[3-5] Men who choose active surveillance may experience increased anxiety associated with the constant vigilance and monitoring of their tumor status along with the uncertainty of not definitively removing or radiating their prostate.[6] In addition to direct functional limitations of sexual and urological side effects, treatment can also lead to secondary psychosocial effects, including depression, self-blame, embarrassment, guilt, lower masculine self-esteem, increased reticence to participate socially or engage in sexual activity, and relationship distress.[7-9] Therefore, health-related quality of life (HRQoL) and treatment satisfaction are important for this population.

Urological and sexual side effects of prostate cancer treatments are often a primary focus during treatment decision making between patients and providers. However, little prospective empirical data exist regarding the role of HRQoL and other nonurological physical and psychosocial outcomes on overall treatment satisfaction. The purpose of this study was to prospectively evaluate the role of both urological and nonurological outcomes on overall treatment satisfaction in men diagnosed with prostate cancer. We hypothesize that such an under-

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standing can help describe changes in physical and psychosocial factors that are important to men beyond traditional urological outcomes, including their association with overall treatment satisfaction.

Methods

This was a prospective longitudinal assessment of patients from the Department of Urology at Northwestern University's Feinberg School of Medicine in Chicago. Patients were eligible if they met the following inclusion criteria: they had been diagnosed with clinically localized or locally advanced prostate cancer; they had not yet received a primary treatment (eg, surgery, radiation, active surveillance) before their baseline assessment; they were 18 years or older; and they were able to read, write, speak, and understand English. Patients were excluded if they had a physical debilitation that would make participation not feasible or would create undue hardship, or if they had a history of diagnosed severe mental illness or hospitalization for chronic psychiatric reasons, as identified by referring physicians.

Eligible participants were approached before their treatment decision (if any). Patient enrollment occurred in 2 ways. For patients invited to participate during their clinic visit, the research assistant explained the study and obtained written informed consent for interested patients. A unique user identification and password was created for each patient, and they practiced using the touch screen computer while the research assistant observed and provided guidance as needed. When the patients were ready to start their pretreatment online interview, they completed the questionnaires by themselves. For patients who were invited to participate but were not scheduled to return in the foreseeable future, enrollment was carried out differently. In those cases, participating physicians contacted eligible patients who were not scheduled for a visit and informed them of the study opportunity. Interested patients were contacted by the research assistant who provided them with the study website address, which directed them to the online consent form. After a patient had completed the consent form, he was prompted to self-register. He received a unique user identification and password that could be used to complete the baseline assessment and subsequent assessments. However, for interested patients who did not have access to a computer or Internet connection, the research assistant provided them with paper consent forms and paper versions of all study assessments. After participants had completed the baseline assessment, the research assistant provided them with a written schedule of future assessments, which were expected to occur at 1 month posttreatment, 3 months posttreatment, 6 months posttreatment, and 12 months posttreatment.

For all follow-up appointments, participants could complete assessments either at clinic visits or from home using a secure online assessment platform called Assessment Center (https://www.assessmentcenter.net/).[10] The research assistant used a patient log to track participants and their progress in the study, which included study number, patient name (or initials), registration date, date of birth, sex, and timeline of completed or future assessments. The research assistant called or emailed participants (depending on patient preference) about a week before each of their follow-up assessments to facilitate adherence. If the participant did not log into the system by the target day, the research assistant contacted him the following day (target day +1) with a phone or email reminder to log into the system and complete the assessments. If the participant did not log in by midnight 1 day after the target day, the research assistant attempted to contact him one last time (target day +2) with either a reminder to log into the system or to ascertain his status that might be related to his noncompletion. Overall, a participant was called or e-mailed 1 to 3 times to remind him of his assessment. If he was unresponsive after 3 attempts, he was recorded as having withdrawn for an unknown reason.

At baseline and each follow-up time point, study participants completed a battery of patient-reported outcome measures, with most coming from the Patient-Reported Outcomes Measurement Information System (PROMIS)[11] and the Surgical Outcomes Measurement System (SOMS).[12] PROMIS is a National Institutes of Health (NIH) funded measurement system that has helped standardize and improve self-reported assessment of health status, symptoms, side effects, and different aspects of HRQoL, including physical, emotional, cognitive, and social health (www.nihpromis.org). SOMS is a suite of patient-reported outcome measures assessing important aspects of HRQoL after surgery. It was developed with feedback from surgeons, postoperative patients, and surgical nurses. PROMIS items were directly incorporated into numerous SOMS measures to facilitate easier comparisons and score crosswalks across measures and patient populations. In addition to PROMIS and SOMS measures, we also administered several well-known instruments of urological and sexual function, including the International Index of Erectile Function (IIEF) and American Urological Association Symptom Score Index (AUASS).[13,14]

Outcome measures were compared across sociodemographic and clinical variables at each time point using *t* tests for numerical variables (age) and with chi-square or Fisher exact tests for categorical variables; those variables with significant differences were used as covariates in statistical models. To examine differences in patient-reported scores over time, we used repeated measures analysis of covariance with general linear modeling methods. We used Pearson correlation coefficients to evaluate for correlations between quality-of-life outcomes and treatment satisfaction.

Not all participants completed each of the follow-up

surveys, and reasons for dropout were prospectively documented. Most participants elected surgical resection as their primary treatment compared with the fewer than 10% of patients who chose radiation or chemotherapy as their primary treatment and about 20% of men who chose active surveillance after their initial diagnosis. Therefore, our analysis focused on patients who elected surgical resection. For comparison purposes, we included the HRQoL results from active surveillance patients.

Results

A total of 105 patients diagnosed with prostate cancer were enrolled in the study. Response rates decreased throughout the study (n = 75 at 1 month; n = 71 at 3 months; n = 64 at 6 months; n = 54 at 12 months). Sociodemographic and clinical characteristics of participants are shown in Table 1. The mean change from pretreatment (baseline) scores for each measure in patients treated with surgery is shown in Table 2, and the mean change from pretreatment scores in patients who elected active surveillance is shown in Table 3 (in both tables, a negative score denotes worsened function, and a positive change denotes improvement).

After surgery, patients reported significantly lower erectile function and sexual satisfaction scores. These included statistically significant decreases for IIEF Erectile Function, IIEF Overall Satisfaction, PROMIS Sexual Satisfaction, PROMIS Sexual Interest, and PROMIS Orgasm. In patients treated with surgery, there were significant improvements in anxiety observed for patients at each follow-up time, whereas significantly worse bladder problems were observed on SOMS Bladder at 1 and 3 months but returned to baseline by 12 months after surgery. AUASS was worse at 1 month but significantly improved at 6 and 12 months. Fatigue scores significantly worsened at 1 month but were no longer significant at 6 and 12 months. Physical Function was worsened at 1 month but not throughout the rest of the study. Bowel Problems (SOMS) were significantly worse at 1 month, but changes became nonsignificant on subsequent assessments. The only 2 domains that did not demonstrate any significant changes over time were Pain Interference and Sleep Disturbance (both SOMS).

In active surveillance patients, sexual function domains were generally unchanged over the course of the study. However, unlike treated patients, there was no significant improvement in anxiety, depression, pain, fatigue, or sleep. In fact, most of these domains demonstrated worsened functioning, although these were not statistically significant. Urinary domains generally remained unchanged.

Pearson correlation coefficients between HRQoL measures and overall treatment satisfaction (assessed by the question, *Are you satisfied with the results of your operation?*) at each follow-up time point in patients treated with surgery are shown in Table 4. Relations between treatment satisfaction and sexual outcomes were generally statistically insignificant (r, .08-.56). However, sleep disturbance, depression, pain interference, fatigue, embarrassment, and bladder problems all demonstrated statistically significant positive associations with treatment satisfaction, with coefficients ranging from small to medium in magnitude (r, .32-.61). Other outcomes such as anxiety, physical function, and bowel problems demonstrated small to medium statistically significant associations with treatment satisfaction (r, .04-.60) but not at every time point. We performed t tests to examine treatment satisfaction in patients with detectable initial posttreatment prostate-specific antigen (PSA; >0.01 ng/mL). We found no difference in treatment satisfaction between patients with detectable PSA values and those with undetectable PSA at each time point.

When the patients were asked, *Compared with what you expected, how do you rate the results of your operation?*, most of those treated with surgery reported that the results of their operation were better than they had expected (Figure 1A; p. e137). More than 75% of the patients had results that were as expected or better than expected. When asked, *Compared with what you expected, how do you rate your side effects of the operation?*, almost 70% of patients reported side effects no worse than expected (Figure 1B). When asked, *Are you satisfied with the results of your operation?*, most patients reported that overall, they were satisfied with the results of their operation (Figure 1C). At 12 months, none of the patients reported overall dissatisfaction with their treatment choice. More than 90% of patients were mostly or completely satisfied with the results of their operation.

Discussion

This prospective study assessed the HRQoL from pretreatment through 12 months posttreatment in men diagnosed with clinically localized prostate cancer that had been treated with surgery. Although the indicators of sexual function significantly decreased over time, they were not meaningfully associated with overall treatment satisfaction. Instead, a host of other factors, including psychosocial (eg, anxiety, depression, body image dissatisfaction, embarrassment), nonurological physical symptoms (pain interference, physical function, sleep disturbance, fatigue), and bladder problems, were significantly related to overall treatment satisfaction. Although this may not be surprising in other clinical oncology paradigms, the sheer surfeit of focus and attention on sexual function has overshadowed aspects of HRQoL that many men report are important to them, despite worsened sexual function outcomes.

Understanding potential treatment-related changes in HRQoL can be challenging for men when choosing providers and different therapeutic options. The increasing complexity of treatment in prostate cancer has created an opportunity to not only understand efficacy on cancer control but also focus on meaningful patient-reported

TABLE 1 Patient baseline sociodemographic and clinical characteristics (N = 105)

Variable	n (%) or *mean (SD)*
Educational status	
Some high school	1 (1.0)
High school grad/ general equivalency diploma	8 (7.6)
Some college/ technical/associate degree	27 (25.7)
College degree (BA/BS)	26 (24.8)
Advanced degree (MA, PhD, MD)	43 (41.0)
Family household income, US$	
less than 20,000	5 (4.8)
20,000-49,999	15 (14.4)
50,000-99,999	31 (29.8)
≥100,000	53 (51.0)
Current relationship status	
Never married	8 (7.6)
Married	74 (70.5)
Committed relationship	7 (6.7)
Separated	2 (1.9)
Divorced	11 (10.5)
Widowed	3 (2.9)
No. of children	1.8
Height, inches	70.1
Weight, lbs	195.8
Smoking history	
Ever smoked tobacco products	58 (55.2)
Currently smoke tobacco products	8 (7.6)
Average cigarettes smoked a day	5.4
Alcohol consumption	
Currently drink alcohol	85 (81.0)
Days a week drink alcohol	3.2
Alcohol drinks per occasion a day	2
Treatment choice	
Radical prostatectomy	63 (60)
Radiation therapy	9 (8.6)
Active surveillance	21 (20)
Chemotherapy	1 (1)
Missing	11 (10.5)
Clinical stage (n = 104)[a]	
cT1c	86 (82.6)
cT2a	12 (11.5)
cT2b	3 (2.9)
cT2c	2 (1.9)
cT3b	1 (1.0)
Pathological stage (n = 51)[b]	
pT2a	6 (11.8)
pT2c	30 (58.8)
pT3a	10 (19.6)
pT3b	4 (7.8)
pT3c	1 (2.0)
Prostate-specific antigen (ng/mL)	9.7
Clinical biopsy Gleason score (n = 104)[a]	
3 + 3	52 (50.0)
3 + 4	28 (26.9)
4 + 3	13 (12.5)
4 + 4	6 (5.77)
4 + 5	5 (4.8)
5 + 4	0
5 + 5	0
Surgical pathology Gleason score (n = 51)[b]	
3 + 3	21 (35.0)
3 + 4	19 (31.7)
4 + 3	12 (20.0)
4 + 4	3 (5.0)
4 + 5	5 (8.3)
5 + 4	0
5 + 5	0
Catheter at time of diagnosis	6 (11.1)
Previous cancer diagnosis	7 (0.07)
Previous surgery	
Abdominal	25 (24.0)
Superficial soft tissue	10 (9.6)
Orthopedic	33 (31.7)
Other	23 (22.1)
Comorbid medical conditions	
Coronary artery disease	9 (8.7)
Chronic kidney disease	1 (1.0)
Diabetes mellitus	12 (11.5)
Hyperlipidemia	39 (37.5)
Hypertension	52 (50.0)
Peripheral vascular disease	1 (1.0)
Hypothyroidism	4 (3.8)
Depression	4 (3.8)
Mental health problem (not depression)	2 (1.9)
Other	44 (42.3)

[a]One patient completed the baseline survey but was subsequently lost to follow-up. [b]Nine patients completed baseline surveys and underwent treatment but did not complete follow-up questionnaires.

TABLE 2 Pretreatment baseline and difference from baseline scores of health-related quality-of-life outcomes over 12 months in patients treated with surgery[a]

Measurement tool/domain	Mean score (standard error)				
		Difference from baseline, months after surgery			
	Baseline[b] (n = 63)	1 (n = 53)	3 (n = 50)	6 (n = 46)	12 (n = 42)
IIEF					
Erectile function	19.80 (1.29)	−15.36* (1.33)	−13.53* (1.31)	−14.37* (1.28)	−12.77* (1.36)
Overall satisfaction	7.03 (0.36)	−2.73* (0.41)	−2.52* 0.36)	−2.64* (0.37)	−2.29* (0.44)
PROMIS					
Sexual satisfaction	58.34 (1.24)	−12.12* (3.12)	−9.95* (1.45)	−10.81* (1.41)	−10.92* (1.62)
Sexual interest	54.62 (0.95)	−6.25* (0.99)	−4.77* (0.79)	−3.99* (1.00)	−3.44* (1.01)
Orgasm	12.21 (0.22)	−0.98** (0.35)	−0.43 (0.39)	−0.37 (0.32)	−0.58 (0.40)
SOMS					
Anxiety	22.57 (0.53)	1.96* (0.46)	2.80* (0.48)	2.73* (0.51)	2.34* (0.60)
Depression	25.86 (0.47)	0.91 (0.49)	1.21* (0.43)	1.04** (0.45)	0.60 (0.58)
Pain interference	28.44 (0.35)	−0.40 (0.52)	0.49 (0.38)	0.43 (0.50)	−0.07 (0.50)
Fatigue	31.00 (0.47)	−2.26* (0.59)	−0.63 (0.53)	−0.63 (0.54)	−0.31 (0.66)
Sleep disturbance	16.11 (0.39)	−0.60 (0.42)	−0.21 (0.39)	0.10 (0.41)	−0.24 (0.45)
Physical function limitation	34.97 (0.30)	−1.60* (0.42)	−0.24 (0.22)	−0.25 (0.36)	−0.24 (0.31)
Bladder	28.79 (0.57)	−4.79* (0.68)	−2.25* (0.55)	−1.22 (0.64)	−0.47 (0.61)
Bowel	31.02 (0.36)	−1.22** (0.49)	0.59 (0.34)	0.21 (0.43)	0.33 (0.36)
AUA Symptom Score	26.39 (1.00)	−2.72** (1.02)	0.09 (0.84)	2.34** (0.90)	2.45* (0.82)

AUA, American Urological Association; IIEF, International Index of Erectile Function; PROMIS, Patient-Reported Outcomes Measurement Information System; SOMS, Surgical Outcomes Measurement System

[a]Negative numbers denote worse; positive numbers denote improvement. [b]Baseline was pretreatment, following diagnosis.

*$P < .01$. **$P < .05$.

outcomes. Hospitals and medical groups are increasingly aware of the importance of improving the patient care experience. Objective measures of patient satisfaction for health care providers, such as the Press-Ganey (www.press-ganey.com) and Net Promoter score, exist to measure and improve patient experience. In prostate cancer, clinicians and large groups, including governmental agencies such as the US Preventive Services Task Force, have often focused on declines in urinary and erectile function[15] without considering the full impact of prostate cancer treatment on global HRQoL. Our study was a prospective, longitudinal, self-reported examination of the impact, positive and negative, of prostate cancer treatment over a 12-month period.

Numerous studies have documented the treatment-related side effects of erectile, urinary, and bowel dysfunction in patients treated for prostate cancer, which may occur after definitive local therapies.[5,16-18] The present study shows a similar impact on urinary, bowel, and erectile domains after treatment. Although erectile function scores remained lower through the course of the 12-month study, bowel and

TABLE 3 Pretreatment baseline and difference from baseline scores of health-related quality-of-life outcomes over 12 months in patients on active surveillance[a]

Measurement tool Domain	Mean score (standard error)				
		Difference from baseline, months after surgery			
	Baseline[b] (n = 63)	1 (n = 53)	3 (n = 50)	6 (n = 46)	12 (n = 42)
IIEF					
Erectile function	17.71 (2.37)	−0.29 (1.90)	1.36 (2.28)	−0.76 (2.83)	0.16 (2.79)
Overall satisfaction	6.95 (0.51)	0.03 (0.53)	−0.70 (0.49)	−0.51 (0.61)	−1.30 (0.73)
PROMIS					
Sexual satisfaction[c]	54.29 (2.62)	3.50* (1.14)	2.15 (1.55)	4.05 (2.18)	−0.81 (2.17)
Sexual interest	55.24 (1.92)	−0.95 (2.12)	−1.34 (2.32)	−1.92 (2.12)	−3.97 (1.92)
Orgasm[c]	12.43 (0.46)	−0.48 (0.39)	0.01 (0.46)	0.13 (0.57)	−0.62 (0.67)
SOMS					
Anxiety	22.48 (1.04)	0.49 (0.84)	0.38 (0.66)	1.93 (0.94)	0.41 (1.34)
Depression	26.95 (0.70)	−1.19 (0.68)	−1.71 (1.18)	−1.28 (1.13)	−2.02 (1.23)
Pain interference	28.43 (0.64)	−0.63 (0.52)	−2.13 (1.24)	−1.67 (1.31)	−1.91** (0.87)
Fatigue	30.33 (1.14)	−1.16 (1.02)	−2.73 (1.44)	−1.26 (1.78)	−2.05 (1.22)
Sleep disturbance	17.48 (0.34)	−0.89 (0.53)	−1.34** (0.63)	−1.16 (1.07)	−1.19 (0.82)
Physical function limitation	34.43 (0.73)	−0.54** (0.25)	−1.63 (1.01)	−1.61 (1.45)	−2.42** (0.83)
Bladder	28.83 (0.91)	−0.40 (0.59)	−0.22 (0.89)	−1.24 (1.04)	−1.47 (0.87)
Bowel	31.19 (0.55)	−0.43 (0.89)	−0.69 (0.74)	−0.69 (0.83)	−2.27 (1.18)
AUA Symptom Score	27.57 (1.20)	−0.73 (1.42)	−0.34 (1.62)	−2.58 (1.67)	−2.73 (1.79)

AUA, American Urological Association; IIEF, International Index of Erectile Function; PROMIS, Patient-Reported Outcomes Measurement Information System; SOMS, Surgical Outcomes Measurement System.

[a]Negative numbers denote worse; positive numbers denote improvement. [b]Baseline was pretreatment, following diagnosis. [c]Fitted with heterogeneous first-order autoregressive covariance structure.

*$P < .01$. **$P < .05$.

bladder domains returned to baseline by month 12. Unlike other studies, we also examined psychosocial and nonurological aspects of prostate cancer treatment. We found that there was a measurable and significant positive impact on other HRQoL measurements such as decreased anxiety. Despite a variety of declines across HRQoL domains, most patients reported that their results were largely as they had expected, and their side effects were the same or better than they had expected. No patient in the cohort reported being dissatisfied with his overall treatment, and more than 90% of patients were mostly or completely satisfied with their treatment choice. This highlights the point that while sexual and other urological domains of HRQoL are important, impairments in these areas do not necessarily reflect how many patients perceive success or satisfaction with their treatment choice. We also showed cor-

TABLE 4 Correlation between treatment satisfaction and patient-reported outcomes following prostate cancer surgical treatment (relations are reported as associations of improved function with improved satisfaction)[a]

Measurement tool/domain	Treatment satisfaction[b] 1 month (n = 53)	3 months (n = 50)	6 months (n = 46)	12 months (n = 42)
IIEF				
Erectile function	–0.10	–0.12	–0.12	0.11
Overall satisfaction	0.15	0.24	0.12	0.31
PROMIS				
Sexual satisfaction[c]	0.56*	-0.08	0.39	0.55*
Sexual interest	0.19	0.06	0.20	0.06
Orgasm[c]	0.25	0.48*	0.17	0.37
SOMS				
Anxiety	0.60**	0.43**	0.28	0.44**
Depression	0.47**	0.48**	0.32*	0.37*
Pain interference	0.33*	0.49**	0.61**	0.32*
Fatigue	0.56**	0.40**	0.51**	0.46**
Sleep disturbance	0.59**	0.51**	0.55**	0.51**
Physical function limitation	0.28*	0.24	0.43**	0.20
Bladder	0.41**	0.63**	0.58**	0.53**
Bowel	0.51**	0.40**	0.35*	0.04
AUA Symptom Score	0.56**	0.63**	0.50**	0.34*

AUA, American Urological Association; IIEF, International Index of Erectile Function; PROMIS, Patient-Reported Outcomes Measurement Information System; SOMS, Surgical Outcomes Measurement System

[a]Pearson correlation coefficients (*r*). Data were not available for all enrolled participants. Numbers of patients vary for each correlation coefficient from n = 14 to 20 for PROMIS Sexual Satisfaction to the number of patients observed at each time shown at the top of each respective column. [b]Treatment satisfaction ascertained by the question, *Are you satisfied with the results of your operation?* *$P < .05$. **$P < .01$.

relations between treatment satisfaction and improvement in sleep, anxiety, depression, and fatigue. It is worth noting that although there were decreases in the erectile and sexual function domains after treatment, those factors were not correlated with overall treatment satisfaction. Those factors may not routinely be assessed before, during, and after treatment for prostate cancer in most clinical encounters. However, because they were strongly associated with satisfaction with treatment outcomes in this study, identification in impairments may lead to opportunities to intervene and improve the patient experience. Therefore, important "teachable moments" may be missed (for both patients and providers) during treatment decision-making encounters if other factors beyond sexual and urological outcomes are not adequately considered and addressed. Furthermore, the results of our study may help clinicians counsel patients on their expectations for their recovery after surgery and identify particular issues related to HRQoL to pay close attention to in follow-up visits.

Strengths of our study include its prospective nature, which allowed evaluation of HRQoL outcomes at multiple time points throughout the first year after treatment. In addition, we used existing patient-reported outcome tools validated by the NIH to assess changes in HRQoL. PROMIS is an NIH-supported tool that can be leveraged in the pre- and posttreatment periods to identify patients who have impairments with HRQoL. It can provide clinicians with a unique opportunity to detect and intervene in setbacks and side effects to improve patient satisfaction and HRQoL.

Limitations of the current study include that most patients selected surgery for their treatment choice and that not all patients completed all longitudinal questionnaires, although this is expected in longitudinal studies of this nature. Although all the patients were approached and encouraged to participate, many did not participate and were not captured. In addition, not all patients completed end-of-study surveys. These factors may have biased our results because of unmeasurable factors related to nonparticipation or dropout. Our study encompassed the preoperative period up to 12 months postoperatively, which may fail to identify improvements or declines in HRQoL that may occur more than 12 months postoperatively, particularly related to continence and erectile function. The participants were enrolled by 6 surgeons, and we were not able to standardize the preoperative counseling either preoperatively or postoperatively, which may have biased our results. Finally, our study population consisted of predominantly white, married men of higher socioeconomic status; therefore, our results may not be generalizable to newly diagnosed prostate cancer patients overall.

Conclusions

By using validated self-administered questionnaires, we found that despite decreased sexual and urinary function, patients treated for prostate cancer were satisfied with their treatment choice. Correlates to higher patient satisfaction included decreased anxiety, depression, fatigue, and sleep disturbances.

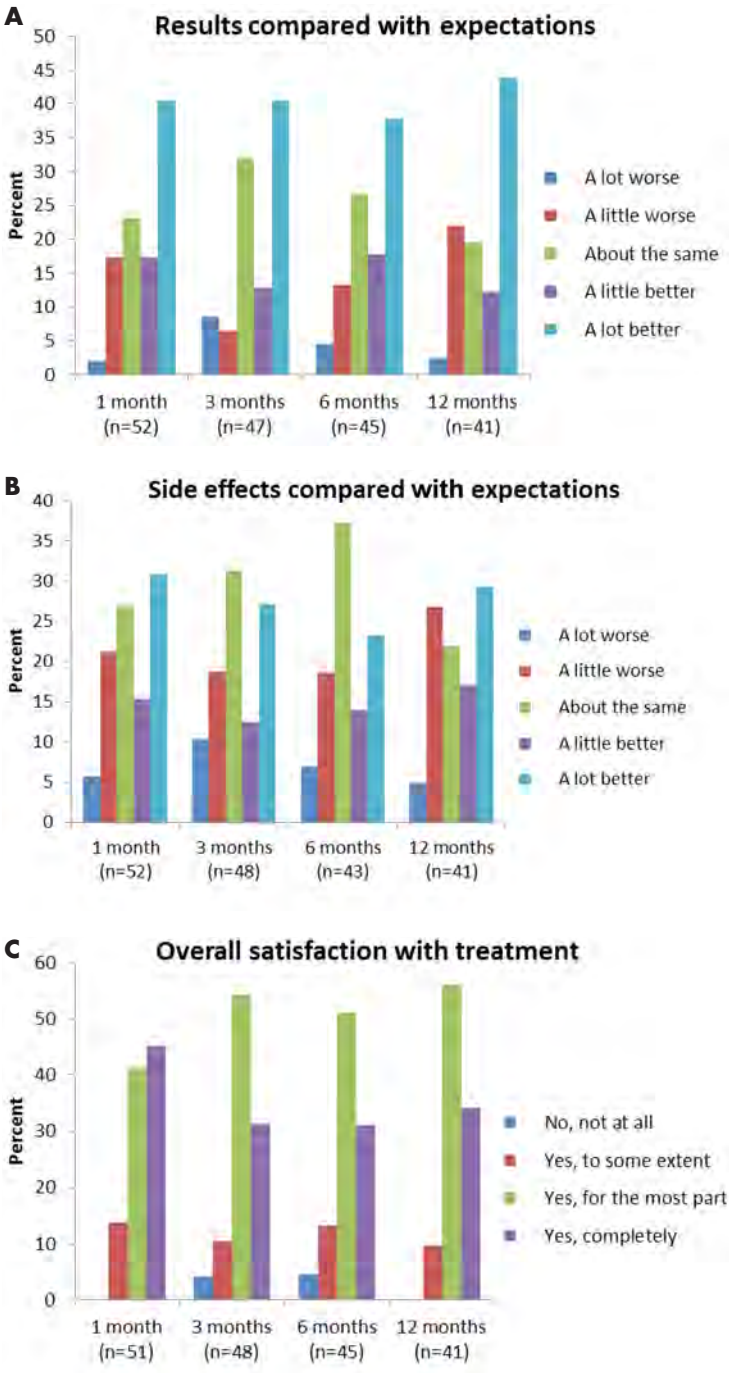

FIGURE Patient-reported satisfaction with A, results compared with expectations following surgery, B, side effects compared with expectations following surgery, and C, overall satisfaction following surgery.

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