What determines satisfaction with surgeon treatment in low income women with breast cancer?

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Abstract

Objective—To examine the relationship of overall patient satisfaction with the treatment provided by the surgeon and the consultation process and skills, in low income women undergoing surgical treatment for breast cancer.

Design—Cross sectional survey. Logistic regression was used to assess the relationship between satisfaction with surgeon treatment and four consultation skills and processes (time spent, listens carefully, explains things in a way you could understand, and shows respect for what you had to say), controlling for a range of patient, surgeon, and treatment characteristics.

Setting & Patients—A statewide sample of 789 low income women in California receiving treatment for breast cancer under the state's Breast and Cervical Cancer Treatment Program (BCCTP).

Main outcome measures—Satisfaction with surgeon treatment.

Results—Three out of every four women reported being extremely satisfied with the treatment they received from their surgeon. African-American women and those with arm swelling were less likely to be satisfied, while those reporting that the surgeon always spent enough time and explained things in a way they could understand were more likely to report greater satisfaction.

Conclusions—Our findings highlight the importance of two relatively simple behaviors that surgeons can easily implement to increase patient satisfaction, which can be of potential benefit in today's litigious world.

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Introduction

Surgeons play a key role in the treatment of patients with breast cancer. In today's clinical environment, the traditional indicators of clinical care quality (such as five year survival, etc.) are increasingly being complemented with patient centered outcomes, such as patient satisfaction.

There is a rich body of literature focusing on determinants of patient satisfaction with the provider, his/her treatment, and the decision making process.[1–5] In terms of surgical treatment of breast cancer, literature focuses on patient satisfaction with body image, decision regret, treatment decision making, concordance with treatment wishes, etc.[1, 5–8] There are few studies that ascertain the relationship of overall patient satisfaction with the treatment provided by the surgeon and the consultation process and skills.[1, 5] In this limited subset, most studies control for patient (age, education, income, stage, etc.) and surgeon characteristics, but very few control for confounding caused by factors such as treatment delay, patient self-efficacy, surgical concordance and surgical outcomes. Additionally, none of the studies examines this relationship in a population of low income women.

In a statewide sample of 789 low income women in California receiving treatment for breast cancer under the state's Breast and Cervical Cancer Treatment Program (BCCTP), we analyzed the relationship between satisfaction with surgeon treatment and four consultation skills and processes (time spent, listens carefully, explains things in a way you could understand, and shows respect for what you had to say), controlling for a range of patient, surgeon, and treatment characteristics.

Methods

Study Design & Data Source

The details of the study design and sample have been described in a previously published article, and are reviewed briefly here.[9] We conducted a cross-sectional survey of low-income women living in California newly diagnosed with breast cancer, aged 18 years and older. The study was approved by the UCLA Human Subjects Protection Committee (HSPC) and the California State Department of Health Services HSPC. A consecutive sample of all women treated through the California BCCTP between February 2003 and September 2005 was recruited for the study. The BCCTP was legislated by the federal government as part of the Breast and Cervical Cancer Prevention and Treatment Act of 2000, to fund the treatment of breast and cervical cancer for un- and under-insured, low-income women (at or below 200 percent of the Federal Poverty Level). The BCCTP in California is supported via federal funding through Medicaid as well as separate State funding.

A total of 921 women were recruited into the study. Women who did not speak English or Spanish, had a previous history of breast cancer, or were receiving treatment for another cancer, were excluded from the study. Our overall response rate was 61%. Compared with survey responders, non-responders were older (52 vs. 50 years, p<0.05), more likely to be Asian (9% vs. 4%), and less likely to be Latina (46% vs. 56%, p<0.05). Further details about the design and flow of the study can be found in a previous article.[9] Our analysis for this paper is based on 789 women who completed phone interviews approximately 18 months after diagnosis and for whom medical records from a systematic chart abstraction were available.

Model and Variable Specification

Variables were constructed using both patient self report and medical chart abstraction data. Our dependent variable was based on the response to the question "Altogether, how satisfied are you with your treatment by the surgeon?" A similar format has been used in the literature to assess patient satisfaction.[6, 10–13] Response categories were based on a 5-point Likert scale: extremely satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied, and extremely dissatisfied. Due to the skewed nature of the responses (74% reported being extremely satisfied), we dichotomized the variable (extremely satisfied vs. not extremely satisfied).[8, 13]

The key independent variables capturing the consultation skills and process were based on the four questions from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey evaluating the surgeon-patient interaction.[14] These questions were: (a) "How often did the surgeon you saw the most listen carefully to you?" (b) "How often did s/he explain things in a way you could understand?" (c) "How often did s/he show respect for what you had to say?" and (d) "How often did s/he spend enough time with you?" Responses to these questions were on a 4-point Likert scale: never, sometimes, usually, and often. Due to sparse responses in the 'never' category, we combined the 'never' and 'sometimes' responses into one group.

Control variables included patient, surgeon, and treatment characteristics. Patient characteristics included age (less than or equal to 50 years of age, greater than 50 years of age), education less then grade 12 (no, yes), ethnicity (white, African-American, Latina, other), annual household income (less than $10,000, $10,000 – $19,999, $20,000 – $29,999, greater than or equal to $30,000), and stage of disease (0, 1, 2, 3 or 4,). Self reported general health status was assessed with the question "In general, would you say your health is …" and measured on a 5-point scale from 1 (poor) to 5 (excellent). Depression was evaluated using the Center for Epidemiologic Studies – Depression (CES-D) scale.[15–17] Patient self-efficacy was measured using the validated Perceived Efficacy in Patient-Physician Interactions (PEPPI) questionnaire.[18] PEPPI measures patients' perceived ability to obtain needed medical information and attention to their chief medial concerns from physicians. The PEPPI sum scale has a range from 0 to 50; and Cronbach's α in our sample was 0.96.

Treatment characteristics included type of surgery (lumpectomy, mastectomy, other/unsure), treatment delay (coded 'yes' if the woman reported a period of 60 days or more between the time she first became aware that something was wrong and the first invasive diagnostic procedure (i.e., biopsy or surgery)), surgical concordance ('yes' if the woman received the type of surgery she preferred, and 'no' if she did not), and presence in the past four weeks of arm swelling and decreased arm movement. We also controlled for sex of the surgeon and time elapsed since surgery, to adjust for confounding by time.

Data Analysis

Descriptive statistics were used to understand the characteristics of the patients and surgeons. Unadjusted bivariate relationships between the dependent and independent variables were examined. Logistic regression was used to obtain the odds ratios between the dependent variable and the regressors of interest, controlling for other covariates. Regression diagnostics were conducted using the Hosmer-Lemeshow goodness of fit tests. Second order interactions were tested for, but none were found to be significant in the final models. A p-value of less than 0.05 was considered to be statistically significant. All data analysis was performed using Stata/SE Version 10.[19]

Results

Our sample of 789 women was predominantly Latina (54%), with whites accounting for approximately a third (32%). Half of the women were older than 50 years of age, and a majority (58%) had more than Grade 12 education. Sixty per cent had an annual household income of less than $20,000 per annum. Almost one third of the women (31%) had early stage disease (0 or 1), and over one third had Stage 2 (36%). Approximately half of women reported they had undergone lumpectomy (51%), and more than half (52%) reported at least a 60 day in undergoing biopsy or surgery from the time they noted something wrong.

Most women reported being treated by a male surgeon (76%). A majority felt that the surgeon always spent enough time with them (52%), always listened carefully to what they had to say (64%), always explained things in a way they could understand (63%), and showed respect for what they had to say (63%). Less than three-fifths of women (57%) received the type of surgical procedure they preferred. Almost three-quarters (74%) of women did not report having any arm swelling during the preceding four weeks, and three fifths did not report any decreased arm movement (60%) during that time. The mean score on the self-reported general health scale was 3 (SD=1), and the mean CES-D scale score was 9.2 (SD=7.5).

In the unadjusted bivariate analyses, among patient characteristics, statistically significant associations were noted between satisfaction and ethnicity, patient self-efficacy (as measured by the PEPPI scale), self-reported general health, and CES-D score (Table 2). African- American women and those categorized as other were less likely to report being extremely satisfied. Women who scored higher on the self efficacy scale were more likely to report being extremely satisfied; while an increase in the general health and CES-D scores were associated with lower likelihood of being extremely satisfied. Among surgeon characteristics, all four surgeon-patient communication measures (listening carefully, explaining things, showing respect, spending enough time) were strongly associated with satisfaction. None of the treatment characteristic variables were associated with satisfaction.

After controlling for other variables in the logistic regression model, these findings were attenuated as depicted in the last column of Table 2. African-American women had significantly lesser odds of being extremely satisfied with the surgeon's treatment compared to white women. The PEPPI score remained significant, with an effect size nearly identical to that in the unadjusted analyses. Among the four measures of surgeon-patient communication, only spending enough time and explaining things remained significant, with an attenuation of the effect size compared to the unadjusted analyses. Women who had arm swelling were less likely to report being satisfied with the surgeon's treatment compared to those who did not have arm swelling in the past 4 weeks.

Discussion

In our statewide sample of low-income women in California, three out of every four women reported being extremely satisfied with the treatment they received from their surgeon. This high percentage of satisfaction is similar to that reported in other studies.[1, 2, 5, 8, 20] The BCCTP Program is a safety net for women who fall through the cracks and are not eligible for other insurance coverage options Thus, low-income women in this sample are relatively enabled in terms of their access to care by virtue of their enrollment in the BCCTP program. It is thus highly probable that this high rate of satisfaction may reflect a sense of gratitude among women for receiving care for a life threatening condition.

Among the four measures of doctor patient communication, two were statistically significantly associated with satisfaction – time spent and explaining things. Breast cancer is

a devastating diagnosis and patients seek succor from their treating doctors. Spending enough consultation time with the patient is one way by which surgeons underscore the gravity of the situation; in addition, it allows them adequate time to address the patient's concerns and questions. Evidence from a regional breast cancer center suggests that surgeon consultations average around 20 minutes,[21] and a recent report suggests that breast cancer patients whose consultation was longer than 15 minutes were more likely to characterize the surgeon-patient interaction as extremely helpful.[1] Explaining things in a manner that the patient can understand may be helpful in allaying and addressing patient concerns and questions, as well as decreasing patient anxiety about surgery that is often invasive and sometimes mutilating.[22]

Compared to white women, African-American women were significantly less likely to report being extremely satisfied with their surgeon's treatment, similar to the finding by Lantz et. al.[8] This finding could be due in part to the well documented disparities in health care that African Americans have suffered.[23–25] Even in our sample, there was a significant difference in the self reported treatment delay - African-American women were significantly more likely to report at least a 60-day treatment delay (data not shown). A woman's self efficacy was related to higher satisfaction - women who were more self efficacious could presumably obtain the information they needed from the surgeon during the consultation, thus increasing their satisfaction with the surgeon's treatment. Self-efficacy has previously been shown to be a predictor of satisfaction.[1, 21, 26]

Women who had arm swelling during the preceding four weeks were significantly less likely to report being satisfied compared to women who did not have arm swelling. Mandelblatt et. al. found a similar relationship in a sample of older women (> 67 years) with Stage 1 or 2 disease.[6] The mean number of days since surgery in our study was 473 (median = 499 days), so presence of arm swelling at the interview time would imply a persistent post-surgical sequelae, which would certainly impact a patent's satisfaction level. However, the presence of arm swelling was not statistically significant in the bivariate (unadjusted) analysis. This is because arm swelling was confounded by ethnicity – in the presence of arm swelling, African-American women were more likely to report lower satisfaction compared to all other groups (data not shown). When the effect of ethnicity was controlled for in the regression model, the 'true' effect of the arm swelling became apparent.

From a policy perspective, our findings highlight the importance of two relatively simple behaviors that surgeons can easily implement to increase patient satisfaction. While our study does not provide any indication of how long an 'ideal' consultation should be, it does indicate that more is always better; to the extent the busy schedule of today's surgeon allows, the benefits of spending more time with a patient are significant in terms of patient satisfaction. In addition, explaining things – be they surgical options, post-operative care, or relative risks of treatment options – the surgeon should do so in a way that the patient understands. This usually entails eschewing medical jargon and not overestimating the patient's capacity to absorb, interpret and retain information – the corollary here is that simpler is better.[27–29] Such behaviors from the surgeons have the potential of not only improving patient satisfaction, but also of improving compliance and thereby outcomes and decreasing potential litigation in the future.[30] For example, the American College of Surgeons' Closed Claims Study found that better communication could have prevented complications in 22% of patients; in addition, for those patients among whom the expected quality of surgical care was satisfactory, communication and practice pattern violations were the most common deficiency in care provision.[31]

Some caveats should be borne in mind as one interprets the results of our study. First, our data is cross sectional, thus precluding any interpretation of causality. Second, our sample is

a low-income population in California but was relatively 'enabled' due to enrollment in a specific program; thus our results may not be applicable to other states or populations. Third, a relatively small number of women underwent breast reconstruction in our study, so were not able to assess the impact of breast reconstruction on satisfaction. Reconstruction has been linked to satisfaction in the literature.[3] Fourth, our data was obtained 18 months after the woman's enrollment in BCCTP. Recall bias could therefore be an issue, although some reports suggest that patients can accurately report the treatment received in the past.[32] Controlling for time since surgery did not change our regression results.

Despite these caveats, our study has many strengths. It is among the few that has analyzed a statewide sample of low income women. Our sample size is relatively large, and our dataset allows us to control for important confounders that have not been controlled for in the past, such as treatment delay, patient self-efficacy, surgical concordance and surgical outcomes, thus lending credence to our findings.

In conclusion, analysis of our sample of 789 low-income women receiving care funded through the California BCCTP suggests that a majority are extremely satisfied with the treatment provided by their surgeon. Spending enough time and explaining things in a way that the patient can understand are two clinical skills or processes that significantly impact this level of satisfaction. In addition, being an African-American women, reporting the presence of arm swelling in the past 4 weeks and a low self efficacy score are associated with lower satisfaction. Future research would be helpful in identifying the duration of an 'ideal' consultation.

Acknowledgments

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Table 1

Sample characteristics (n=789).

	n (%)
Patient characteristics	
Age	
<=50 years	389 (49.3%)
> 50 years	400 (50.7%)
Education less than Grade 12	
No	460 (58.5%)
Yes	327 (41.5%)
Ethnicity	
White	252 (32%)
African-American	42 (5.3%)
Latina	425 (53.9%)
Other	70 (8.7%)
Annual household income	
Less than $10,000	281 (35.6%)
$10,000 – $19,999	193 (24.4%)
$20,000 – $29,999	158 (20%)
$30,000 or more	158 (20%)
PEPPI score	38.1 (11.6) [a]
Stage	
0	74 (9.3%)
1	175 (22%)
2	287 (36%)
3/4	165 (20.5%)
Missing	97 (12.2%)
Self reported general health	3 (1) [a]
CES-D score	9.2 (7.5) [a]
Surgeon characteristics	
Sex	
Male	587 (76.4%)
Female	181 (23.6%)
How often did s/he spend enough time with you?	
Sometimes/never	159 (20.6%)
Usually	211 (27.4%)
Always	400 (52%)
How often did the s/he listen carefully to you?	
Sometimes/never	96 (12.5%)
Usually	182 (23.6%)
Always	493 (63.9%)
How often did s/he explain things in a way you could understand?	

	n (%)
Sometimes/never	94 (12.2%)
Usually	195 (25.3%)
Always	482 (62.5%)
How often did s/he show respect for what you had to say?	
Sometimes/never	90 (11.7%)
Usually	198 (25.7%)
Always	483 (62.6%)
Treatment characteristics	
Type of surgery	
Other/unsure	83 (10.4%)
Lumpectomy	407 (51%)
Mastectomy	308 (38.6%)
60 day or more delay in biopsy/surgery	
No	384 (48.7%)
Yes	405 (51.3%)
Days elapsed since surgery	473 (90) [a]
Surgery concordance	
No	339 (42.3%)
Yes	459 (57.5%)
Arm swelling in past 4 weeks	
No	582 (73.6%)
Yes	209 (26.4%)
Decreased arm movement in past 4 weeks	
No	475 (60.1%)
Yes	315 (39.9%)

Note:

[a] denotes the values are means (SD)

Table 2

Unadjusted and adjusted odds ratios of determinants of women being extremely satisfied with treatment by their surgeon at 18 months (n=740).

	Unadjusted odds ratio	Adjusted odds ratio
Patient characteristics		
Age		
<=50 years	-	-
> 50 years	0.97	1.00
Education less than Grade 12		
No	-	-
Yes	1.28	1.53
Ethnicity		
White	-	-
African-American	0.47*	0.33*
Latina	1.11	1.58
Other	0.49*	0.61
Annual household income		
Less than $10,000	-	-
$10,000 – $19,999	1.51	1.25
$20,000 – $29,999	1.40	1.28
$30,000 or more	1.51	1.40
PEPPI score	1.04*	1.02*
Stage		
0	-	-
1	1.55	1.27
2	1.38	1.39
3/4	1.94*	1.64
Missing	0.99	0.53
Self reported general health	0.77*	1.02
CES-D score	0.95*	0.97
Surgeon characteristics		
Sex		
Male	-	-
Female	0.89	1.06
How often did s/he spend enough time with you?		
Sometimes/never	-	-
Usually	3.15*	1.46
Always	11.11*	2.75*
How often did the s/he listen carefully to you?		
Sometimes/never	-	-
Usually	4.06*	1.49

	Unadjusted odds ratio	Adjusted odds ratio
Always	14.67*	1.82
How often did s/he explain things in a way you could understand?		
Sometimes/never	-	-
Usually	3.59*	1.60
Always	15.76*	3.08*
How often did s/he show respect for what you had to say?		
Sometimes/never	-	-
Usually	5.33*	1.74
Always	19.4*	2.36
Treatment characteristics		
Type of surgery		
Other/unsure	-	-
Lumpectomy	0.55	0.67
Mastectomy	0.74	0.99
60 day or more delay in biopsy/surgery		
No	-	-
Yes	1.06	1.22
Days elapsed since surgery	1.00	0.99
Surgery concordance		
No	-	-
Yes	1.16	1.22
Arm swelling in past 4 weeks		
No	-	-
Yes	0.76	0.57*
Decreased arm movement in past 4 weeks		
No	-	-
Yes	0.79	1.00

*
p < 0.05