Patient-Provider Communication and Cancer Screening among Unmarried Women

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Abstract

Objectives: Unmarried women are less likely than married women to receive recommended cancer screenings. Patient-provider communication is a consistent predictor of cancer screening among women. The purpose of this study was to investigate the relationship between patient-provider communication, barriers to cancer screening, and on-schedule breast and cervical cancer screening (BCCS) among unmarried women.

Methods: Data were from the Cancer Screening Project for Women, a 2003-2005 survey examining cancer screening practices. We computed polytomous logistic regression models to examine the relationship between communication (communication about tests, communication about sexual and intimate relationships), barriers to screening, and on-schedule BCCS among unmarried women.

Results: A total of 630 women were enrolled, and 605 women completed the baseline questionnaire. Overall, more than 60% reported on-schedule BCCS. More than half reported that their providers communicated about BCCS most or all of the time. Fewer than half communicated about sexual history and intimate relationships. Women who reported that their providers communicated about screening tests and their sexual and intimate relationships were more likely to be on-schedule for BCCS.

Conclusion: Patient-provider communication in multiple areas may encourage women to remain on-schedule for their recommended cancer screenings. Longitudinal research should be conducted to examine whether communication predicts BCCS, and to examine how patient and provider characteristics may influence communication in order to promote adherence to screening guidelines for unmarried women.

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Practice Implications: Comprehensive communication that goes beyond information about screening tests may impact adherence to cancer screening guidelines.

Keywords

cancer screening; patient-provider communication

1. Introduction

Over 18 million women aged 40-75 in the United States are currently unmarried (1). Although few studies include sufficient samples of unmarried women for analysis, data suggest that the risk for breast and cervical cancer may be higher for some unmarried women than women in general (2-4). Moreover, some unmarried women may be less likely than married women to receive recommended cancer screenings (3,5). The risk of adverse health outcomes may be greater for unmarried women if screening and detection are delayed.

Unmarried women may experience unique screening barriers that may partially explain their lower screening rates compared to married women. Marriage is often correlated with access to better health care services and higher income (6). Unmarried women also may have limited access to health insurance because of lack of spousal benefits(7,8). These practical barriers such as limited access to health care services, lower income, and/or lack of health insurance coverage may affect use of cancer screening services for unmarried women.

Additionally, research has shown that unmarried women are more likely than married women to have misconceptions about cancer screening tests (9), which may result from a lack of communication or understanding of the tests. Positive patient-provider communication has been found to be a consistent predictor of cancer screening among women (10,11), and may lead to more health behavior changes, better adherence to medical advice, higher levels of understanding about screening, and better overall satisfaction with care (12-15). Therefore, improved patient-provider communication may help to increase cancer screening rates in this population.

The type and content of patient-provider communication may also contribute to lower breast and cervical cancer screening rates among middle-aged and older, unmarried women. Qualitative analyses have shown that some patients mistakenly believe that mammograms and Pap smears are applicable to younger, sexually active, pregnant and/or menopausal women (16). These beliefs may lead patients to assume that regular breast and/or cervical cancer screenings are not medically relevant or necessary. Enhanced patient-provider communication about sexual health, in addition to communication about screening tests, may help to address patients' misconceptions about breast and cervical cancer risk. However, older adults and clinicians are often reluctant to discuss sexual health (17) despite the fact that many older adults engage in sexual activity (18,19). Further, studies indicate that patient-provider communication of sexuality-related health issues may be suboptimal for unmarried women (20,21), including unmarried sexual minority women (22,23).

Studies that have included discussions of sexual behavior as part of an assessment of provider communication (e.g.(24)) have found that better overall patient-provider communication relates to improved rates of cancer screening. Those assessing providers' willingness to discuss "sensitive topics," including sexual health (e.g. (25)), have also found that discussing these topics with patients relates to patients' use of preventive services. However, to our knowledge, no studies have specifically examined the relationship between patient-provider communication about sexual health and cancer screening among a sample of unmarried women.

Therefore, the purpose of this study was to investigate the effects of patient-provider communication in two areas—screening tests and sexual and intimate relationships—on unmarried, middle-aged and older women's likelihood of being screened for breast and cervical cancer. Our specific hypotheses were as follows:

1. Women who report that they communicate with their primary care providers about screening tests will be more likely to be on-schedule for breast and cervical cancer screening (BCCS).

2. Women who report that they communicate with their primary care providers about sexual history and intimate relationships will be more likely to be on-schedule for BCCS.

3. Among those who report more frequent communication with their primary care providers, there will be no relationship between number of barriers to screening and on-schedule BCCS. However, among those who report less frequent communication with their primary care providers, more barriers to screening will be associated with less BCCS.

2. Method

2.1. Sample and Recruitment

Data were from the 2003-2005 Cancer Screening Project for Women, which included a survey examining cancer screening practices. Women were eligible for the study if they were aged 40-75, legally unmarried, received most of their health care in Rhode Island, and had never been diagnosed with cancer other than non-melanoma skin cancer.

Principles of targeted and respondent driven sampling(26) were used to recruit and enroll participants. An important aim of the study was to include both heterosexual and sexual minorities in the sample of unmarried women. Five general sources were used for recruitment: (a) community settings; (b) health fairs; (c) mailings and flyers; (d) print media; and (e) participant social networks. For additional information about participant recruitment, see Clark et al.(27). Recruitment was conducted over 25 months (June 1, 2003 – June 30, 2005). The study was approved by the Brown University Human Protections Review Board.

Upon contact with a potential participant, informed consent and a screening protocol were administered to assure diverse representation across marital status history and sexual orientation. Participants were then randomly assigned to complete a questionnaire by a self-administered mailed survey, a computer-assisted telephone interview, or a computer-assisted self-interview. For additional information about the data collection methods and survey timetable, see Clark et al (28).

2.2 Measures

Cancer Screening—Five variables related to mammography screening were coded as dichotomous (yes/no) indicators: mammogram in past two years, ever put off/avoided the test, two or more years between most recent exams, no plan to get the exam within the next two years, and difficulty with the exam because of breast shape or size.

Five parallel items related to Pap testing and were also coded as dichotomous: Pap test in past three years, ever put off/avoided the test, three or more years between most recent exams, no plan to get the exam with the next three years, and difficulty with the exam because of body shape or size.

Consistent with current minimum recommendations (29-31), we used screening intervals of two years for mammography and three years for Pap testing (32,33). On-schedule screening was based on the timing of the two most recent screenings, and was coded as: both on-schedule (1), on-schedule breast only (2), on-schedule cervical only (3), both off-schedule (4).

Patient-Provider Communication—For each screening test, women were asked whether their primary care providers (nurse or doctor) explained the test process in understandable ways, and how often they spoke to a provider after the test about the results. These questions were each coded on a scale from 0 (none of the time) to 3 (all of the time). They were averaged and combined into one variable labeled "communication about the tests."

Additionally, women were asked the following questions about more general communication with their primary care provider, if one was identified: whether they had ever spoken with their provider about sexual history and intimate relationships (yes/no), how informed their provider was about their sexual history and intimate relationships (very uninformed, uninformed, informed, very informed), and how comfortable they felt talking to their provider about their sexual history and intimate relationships (very uncomfortable, uncomfortable, comfortable, very comfortable). These items were classified as "communication about relationships" and examined separately, as well as in one combined variable.

Screening Barriers—For each test, women were asked if they experienced specific barriers to cancer screening. Six variables were considered "practical barriers" and were coded dichotomously (yes/no): problems taking time off work; transportation problems; health-related limitations; difficulties with getting someone to care for dependents; or lack of insurance coverage for each of the tests.

Three variables were classified as "emotional barriers" and were also coded dichotomously. Women were asked if they had ever put off or avoided screening because of fear of pain or discomfort from either of the two tests, or fear of finding something wrong.

Two barriers were classified as "communication barriers" and were also coded dichotomously. Women were asked if they had ever put off or avoided each screening test because they were waiting for a provider to recommend it.

Demographic Variables—Single item questions asked participants to report on the following demographic information: age, number of children birthed, highest level of formal education completed, ethnicity, and race.

2.3. Data Analysis

Data were analyzed using SAS/STAT® software, version 9.1 of the SAS system for windows (34). First, we computed descriptive statistics for on-schedule breast and cervical cancer screening (BCCS), self-reported barriers to screening in three areas (practical, emotional, and communication), and communication in two areas (communication about tests, communication about sexual and intimate relationships). Next, we computed polytomous logistic regression models to identify factors associated with on-schedule BCCS (allowing us to examine screening for each test individually and combined in relation to on-schedule screening for both tests), controlling for age, race, and education. For the model examining communication about sexual and intimate relationships, we also included whether or not women had given birth to any children. We did not examine partner gender (women who partner with women, women who partner with men) in these analyses, because in previous analyses, few differences were found between partner gender in cancer screening behavior, the type of barriers reported, or the number of barriers reported (28,35). For each model, we tested for an interaction between

patient-provider communication and barriers to screening. Statistical significance was set at the 0.05 alpha level.

3. Results

3.1 Participant characteristics

A total of 630 women were enrolled, and 605 women completed the baseline questionnaire (Table 1). Women were 53 years of age on average (SD=9.3, range 40-75). Most women (75%) identified their ethnic identity as "White, not Hispanic." The sample was highly educated; more than half (58%) had a college or post graduate degree. Nearly half (47%) did not have children.

3.2 Descriptive results

Overall, approximately 60% of women reported on-schedule BCCS. Only 12% were off schedule for both BCCS; the remaining 28% were on-schedule for one of the two screening tests (Table 2).

Almost all of participants (91%) reported a regular primary care provider. About half of participants (54%) reported that their primary care provider communicated about mammograms and Pap tests most or all of the time. Fewer than half of the participants (46%) reported that their providers communicated about sexual history and intimate relationships most or all of the time, although most participants (91%) said they felt comfortable talking to their providers about these topics. Only about one-third of participants (32%) reported that they had spoken to their provider about sexual history and intimate relationships, that their provider was informed about these topics, and that they felt comfortable talking to their provider about these issues. Younger women were more likely than older women to communicate about sexual history and intimate relationships (p<.003).

The mean total number of reported barriers to screening was 1.41 (SD 1.84, range 0-10 out of 11 total possible barriers). The most common reported barrier to cancer screening was difficulty taking time off work (23% of women reported this barrier), with fear of test pain as the second most commonly reported barrier (15% reported fear of pain from a mammogram, and almost all of the same women (15%) reported fear of pain from a Pap test). Lack of insurance coverage was the third most common barrier (13% reported lack of insurance coverage as a barrier to both breast and cervical cancer screening).

3.3 Hypothesis Testing

We computed polytomous logistic regression models to examine the relationship between patient-provider communication (communication about tests, communication about sexual and intimate relationships), barriers to screening, and on-schedule BCCS among unmarried women. We found support for our hypothesis that patient-provider communication was related to on-schedule BCCS (Table 3). Women who reported that their providers communicated about screening tests, and women who reported that their providers communicated about sexual and intimate relationships, were more likely to be on-schedule for BCCS compared to being off-schedule for both tests (p<.05, p<.02, respectively). Women who reported more practical and communication barriers to screening were significantly less likely to report being on-schedule for BCCS compared to being off-schedule for both tests (p<.003, p<.006, respectively; Table 3), and there was a trend towards this relationship for emotional barriers to screening (p<.06; Table 3). However, there were no significant interactions between screening barriers and communication in relation to on-schedule BCCS.

4. Discussion and Conclusion:

4.1. Discussion

This study examined the relationship between patient-provider communication, barriers to cancer screening, and on-schedule breast and cervical cancer screening (BCCS) among a sample of middle-aged and older, unmarried women. The findings demonstrate that multiple types of screening barriers influence on-schedule BCCS in this group. The results also add to the patient-provider communication literature by demonstrating that communication about sexual history and intimate relationships may be an important correlate of on-schedule BCCS.

Although previous studies have demonstrated a relationship between patient-provider communication and adherence to cancer screening guidelines (e.g. (36-38), few studies have examined communication about sexuality and intimate relationships and its impact on cancer screening. Our findings suggest that communication about sexual history may lead to better adherence to screening practices among one population of women. It is possible that open dialogue about sexual health may increase patients' understanding of breast and cervical cancer risk, their relationship with their providers, and their willingness to adhere to screening guidelines. Communication about sexual health may also be a marker for a more open communication relationship between patients and providers.

Our study also suggests that younger women may be more likely than older women to communicate about sexual history and intimate relationships. Younger women may feel more comfortable than older women discussing sexual history with their providers. Likewise, providers may feel more comfortable addressing topics related to sexuality with younger compared to older women. More research is needed to examine the impact of age and communication on cancer screening rates because our study was limited to one distinct age-range (40-75 years).

Our findings were also consistent with past research demonstrating that women rarely communicate with providers about their sexual health (39)(40). In our sample, only about one-third (32%) of the women reported that they had spoken to their primary care provider about sexual history and intimate relationships, their provider was informed about their sexual history, and they felt comfortable talking to their provider about sexual health. Some research has shown that providers believe discussions about social issues such as relationships detract from the medical information given the time limitation of the average outpatient consult (41). However, research examining interventions to improve patient-provider communication has found that these interventions do not necessarily increase the length of the consult (42). Therefore, providers may be missing an important opportunity to inform patients of various cancer risk factors, clarify misconceptions about breast and cervical cancer risk, and improve their relationship with their patients, particularly unmarried women where assumptions may be made about their sexual practices.

There are potential reasons why we did not find an interaction between patient-provider communication and the number or type of barriers to screening in relation to on-schedule BCCS. Women did not report many screening barriers overall; the mean number of barriers reported was 1.41, almost half (45%) of the sample reported no barriers, and an additional 20% reported only one barrier to screening. Most women were also on-schedule for their screening tests; only 12% were off-schedule for both tests. It is possible that we did not have enough variation in barriers to screening or screening practices to find statistical differences in the interaction model. Additionally, we measured barriers to cancer screening by asking women factors that *prevented* them from receiving recommended screenings. Many studies have assessed barriers by asking respondents to endorse barriers from a list of provided options, but did not ask whether those barriers prevented women from getting screened. It is possible that

patient-provider communication may help women to overcome those barriers that are perceived as difficult, but surmountable, issues, such as difficulty finding transportation to/from screening facilities. Additional research may be needed to identify ways to address barriers such as lack of insurance that prevent women from getting screened.

Our findings should be interpreted with caution because of several study limitations. First, to include sufficient numbers of sexual minorities for the larger project, non-probability based sampling methods were used. The sample was highly educated, predominantly white, and employed, with relatively high incomes. Additionally, we did not examine the duration of the patient-provider relationship, nor did we ask the point at which providers communicated with patients about sexual health or cancer screening (e.g. recently or in the distant past). We did not examine provider gender and its impact on patient-provider communication or cancer screening. Some studies have shown that patients of female providers have higher rates of breast and cervical cancer screening (25), and that female providers tend to engage in patient-centered communication more than male providers(25,43). Moreover, we did not examine whether patients communicated with a different non-primary provider (e.g. their gynecologist) about the screening tests or their sexual history. We also did not ask women about the content of their discussions about sexual health (e.g. whether the discussion occurred while discussing the need for a Pap test, birth control, or broader sexual relationship issues).

4.2. Conclusion

The study provides preliminary evidence that patient-provider communication is an important correlate of on-schedule cancer screening among unmarried women. Communication about screening tests and about sexual and intimate relationships may encourage women to remain on-schedule for their recommended cancer screenings. Longitudinal research should be conducted with a broader population of women to explore whether communication about sexual and intimate relationships predicts cancer screening, and/or to examine how patient and provider characteristics may influence communication in order to inform interventions that promote adherence to screening guidelines.

4.3. Practice Implications

Comprehensive communication that goes beyond information about screening tests may impact adherence to cancer screening guidelines. Research should examine optimal methods and timing of communication with a broader population of women to inform interventions that promote cancer screening.

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Table 1

Participant Characteristics (N=605)

	N[*]	%[*]
Age in years (mean, SD)	(53)	(9.3)
Marital status		
Never married	314	50.9
Previously married (widowed, divorced, legally separated)	310	49.21
Level of formal education		
High school, some college, or technical training	248	41.9
College degree or more	344	58.1
Working full-time or part-time		
No	172	29.0
Yes	416	70.2
Number of Children Birthed (mean, SD)	(2.2)	(1.5)
0	299	49
1	73	12
2	110	18
3	62	10
4 or more	57	9
Hispanic ethnicity		
Yes	26	4.4
No	563	95.1
Race		
White, Not Hispanic	446	75.3
Black	65	10.7
Multiracial	46	7.6
Native American, Native Hawaiian, Other	34	5.6

[*] excluding participants who refused to answer; percentages may not total 100%

Table 2

Descriptive Statistics (N=605)

	N[*]	%
On-schedule Screening		
Both mammography and Pap test on-schedule	357	60
Mammography only	64	11
Pap test only	102	17
Both off-schedule	69	12
Patient-provider communication		
About screening tests (% most or all of the time)	339	54
About sexual history	254	46
About relationships overall	202	32
Comfortable communicating about sexual history	574	91
Barriers to Screening		
Total Number (mean, SD)	(1.41)	(1.84)
Taking Time Off Work	139	23
Fear of Test Pain—Pap	91	15
Fear of Test Pain—Mamm	97	15
Lack of Insurance—Pap	77	13
Lack of Insurance—Mamm	77	13

[*] excluding participants who refused to answer; percentages may not total 100%

Table 3

Polytomous Logistic Regression Analysis of On-Schedule Breast and Cervical Cancer Screening

	Mammography On-Schedule Only vs. Both On-Schedule		Pap On-Schedule Only vs. Both On-Schedule		Both Off-Schedule vs. Both On-Schedule	
	Coeff	p	Coeff	p	Coeff	p
Patient-provider Communication						
About Screening Tests [*]	0.47	.07	**0.65**	**.05**	**0.60**	**.05**
About Sexual History and Intimate Relationships[†]	0.28	.07	0.10	.60	**0.44**	**.02**
Barriers to Screening						
Practical Barriers	**−0.43**	**<.0001**	**−0.36**	**.007**	**−0.33**	**.003**
Emotional Barriers	**−0.82**	**<.0001**	−0.15	.16	−0.33	0.06
Communication Barriers	**−0.99**	**<.0001**	−0.17	.16	**−0.79**	**.006**
Total Barriers	**−0.44**	**<.0001**	**−0.24**	**.01**	**−0.28**	**.0005**

[*] controlling for age, race, and education

[†] controlling for age, race, education, and number of children birthed