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Defining patient knowledge and perceptions of vaginal pessaries for prolapse and incontinence

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Abstract

Objective—To define patient knowledge and perceptions of pessaries in order to identify barriers to care and inform physician counseling efforts.

Methods—An anonymous survey was distributed to a convenience sample of new patients presenting to the urogynecology clinics at a single academic medical center. Data analysis was performed using standard bivariate and logistic regression models.

Results—254 women completed the survey. Only half of respondents indicated prior knowledge of pessaries. The most common source of prior knowledge was a physician or other healthcare provider (100/130, 76.9%), comparatively few women had heard about pessaries from any other source. Patients presented with a negative view of pessaries, 3.6 ± 2.2 on a 0-10 point Likert scale, and only a third of patients indicated they would consider pessary use as a treatment option for their condition. On multivariable logistic regression, having previously seen a gynecologist ($p=0.03$) and a lower level of education ($p=0.05$) independently predicted aversion to pessary use.

Conclusions—Only half of patients presenting to a referral-based practice had previous knowledge of vaginal pessaries. Few patients had heard about pessaries from any source other than a physician or other healthcare provider. Patients presented with a negative impression of pessaries and a high level of aversion to pessary use. Patients who indicated they would decline pessary use reported a lower level of education and were more likely to have previously seen a gynecologist for evaluation of their condition. These data may inform physician counseling efforts.

Keywords

Pessaries; pelvic organ prolapse; urinary incontinence; patient counseling

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INTRODUCTION

Current management options for pelvic organ prolapse (POP) and stress urinary incontinence (SUI) include expectant management, physical therapy, the use of mechanical devices known as pessaries, and surgery. The goal of pessary use is to lessen the frequency and severity of prolapse and/or incontinence symptoms as well as to avoid or delay the need for surgery (1). In general, pessaries are a safe, inexpensive, and simple treatment option with high patient satisfaction rates (2). Other work has shown an improvement in co-morbid pelvic floor disorders, such as defecatory dysfunction, an increase in frequency and satisfaction of sexual activity and improvement in body image with pessary use (3-6).

Despite the promise provided by the research outlined above and enthusiasm among urogynecologic providers to offer patients pessaries as a treatment option for POP or SUI (7), patients often decline this treatment option. Patient acceptance of pessaries has been documented to range between 42 to 63% (8-10). There is some data on which patients may decline pessaries (8-11) including patients with more severe symptoms related to bowel emptying, sexual function and quality of life (10) and younger women with more severe prolapse symptoms (11). Patients seeking treatment who decline pessary use will typically opt for surgical management, which carries higher risk.

Research regarding patient decision-making between treatment options remains scant. Anecdotally, clinical experience suggests patients may have a defined opinion of pessaries at the time of presentation to care based on prior clinician interaction, past personal experience, past experience of a close relative, independent research or perceived stigma regarding pessary use. The goal of this study is to define patient knowledge and perceptions of pessaries in order to identify barriers to care and inform physician counseling efforts.

MATERIALS AND METHODS

A convenience sample of new patients presenting to the urogynecology practice at the University of Michigan between August 2013 and January 2014 completed an anonymous survey. Surveys were included in new patient intake paperwork, which was distributed to patients by the clinic clerks on arrival to their appointment. Surveys included a brief explanation of the aims of the study. Identifying information was not collected, and patients were free to opt out of participation. Survey questions were developed based on the expert consensus of 5 fellowship-trained attending physicians. A pilot survey was performed to test questions for comprehension. The final questionnaire is included as Appendix 1. This study was reviewed and considered exempt from Institutional Review Board approval.

Survey questions assessed basic patient demographics including age, level of education, reason for new patient visit and history of prior evaluation for their condition with a gynecologist. Patients were then asked if they had heard about the use of pessaries for prolapse or incontinence; women who indicated they had not did not complete the rest of the survey. The remaining questions assessed personal history of pessary use, sources of information, existing beliefs, impressions and willingness to consider pessary use. As the

surveys were anonymous, women could not be contacted if items were incomplete and medical records were not consulted.

For analysis, demographic characteristics and patient beliefs about pessaries were described. Standard bivariate analysis techniques including Fisher's exact test, student's t-test and Pearson's chi-squared test were used as appropriate to examine relationships between demographic characteristics and prior knowledge of pessaries, history of pessary use, and willingness to consider pessary use.

The primary outcome of interest was patients' willingness to consider pessary placement. Aversion to pessary placement was defined as a patient indicating "no" (as opposed to "maybe" or "yes) to whether she would consider pessary placement for treatment of her condition based on the information she had learned prior to presentation for care. A univariable logistic regression model was used to examine associations between the outcome of interest and the following variables: patient age, having previously sought treatment with a gynecologist, level of education, sources of information, beliefs regarding pessaries, previously having used a pessary and impression of age of pessary users. This analysis was performed among patients who were being seen in clinic for evaluation of a relevant condition and who indicated some prior knowledge of pessaries at the time presentation for care. Two variables, rating of past experience of pessary use among patients with a history of pessary use and patients' overall impression of pessaries on a 0-10 point Likert scale, were not included in the model as there was significant co-linearity between each of these variables and the outcome. Variables found to be significantly associated with the outcome on univariable analyses were included in the multivariable logistic regression model. For all analyses, $P = 0.05$ was considered statistically significant. All statistical analyses were performed using STATA version 12.0 (College Station, Texas).

RESULTS

In this convenience sample, 254 women completed the survey. Patient demographics are described in Table 1. Most patients presented for evaluation of a relevant condition, defined as POP and/or urinary incontinence, (89.1% 223/250). Nearly two thirds of patients (150/246, 61.0%) had previously sought treatment for their condition with a gynecologist. Half of patients (130/251, 51.8%) indicated they had previously heard about pessaries as a treatment option for POP/SUI and were included in subsequent data analyses. Patients who had heard of pessaries were more likely to be older ($p < 0.01$), to report a higher level of education ($p = 0.02$), to have made the appointment for evaluation of a relevant condition ($p < 0.01$), and to have previously seen a gynecologist for their condition ($p < 0.01$). Notably, nearly half of the patients who indicated they had not previously heard about the use of pessaries as a treatment option had already seen a gynecologist for management of their condition (51/118, 43.2%).

Table 2 further describes patients' sources of information, experiences and beliefs related to pessary use. The most common source of information regarding pessaries was a physician or other health-care provider (100/130, 76.9%); comparatively few women had heard of pessaries from any other source. Half of women reported a personal history of pessary use

(48/128, 37.5%). Patients who had previously used a pessary (48/128, 37.5%) were more likely to have initially heard about pessaries from a physician or health-care provider ($p<0.01$) and less likely to have heard about pessaries from a friend or family member who had used one ($p<0.01$).

Participants with prior knowledge of pessaries were fairly well-informed regarding this treatment option, indicating that pessaries are less risky than surgery (82/128, 64.1%), fix prolapse (58/128, 45.3%), and fix stress incontinence (30/128, 23.4%). There were smaller numbers of women who indicated they believed false statements such as pessaries fix urge incontinence (19/128, 14.8%) or cause infections (16/128, 12.5%). We did not find significant differences in beliefs regarding pessaries between patients with and without a history of pessary use. Few women indicated concern about barriers to care such as concern that they would not be able to remove the pessary on their own (20/128, 15.6%) or concern they would not be able to come in for routine cleanings in the office (12/128, 9.4%). The mean perceived age of pessary users was 55.6, ± 9.9 ($n=94$), which was younger than the mean age of survey respondents 59.9, ± 13.0 ($n=129$), $p < 0.01$.

Patients had a generally negative perception of pessaries: 3.6 ± 2.2 on a 0-10 point Likert scale ($n=102$). This rating was uniformly low between patients with and without a history of pessary use: 3.6 ± 3.1 ($n=40$) and 3.7 ± 2.2 ($n=62$), respectively. Only a third of patients (29/107, 27.1%) indicated “yes” they would consider pessary placement for treatment of their condition, which was also uniformly low between patients with and without a history of pessary use: 35.1% (13/47) and 22.9% (16/70), respectively. A slightly larger percentage of women indicated “maybe” they would consider a pessary (42/107, 39.2%). Women who indicated “yes,” they would consider pessary placement, were more likely to believe pessaries are less risky than surgery ($p<0.01$).

Table 3 further describes patient aversion to pessary placement. On univariable logistic regression, having previously seen a gynecologist ($p=0.03$) and a lower level of education ($p=0.03$) predicted aversion to pessary use. Multivariable analysis in the regression model confirmed these variables as independent predictors of aversion to pessary use with p -values of 0.03 and 0.05 respectively.

DISCUSSION

Pessaries are a low-risk, low-cost, effective treatment option for POP/SUI, with high patient satisfaction rates (2). While there is some data exploring which patients may decline treatment with pessary use (8-11), our review of the literature did not reveal any information on why patients decline pessary use. The answer is likely complex, starting with patient and physician knowledge and perceptions of pessaries and then become the result of shared decision making. Defining patient perceptions and knowledge of pessaries is an important starting point in better understanding patient treatment preferences and may inform counseling and education efforts.

Only half of new patients presenting for urogynecologic care at a tertiary referral center presented with some prior knowledge regarding the use of pessaries as a treatment option for

POP and/or SUI. The majority of patients with prior knowledge of pessaries had learned this from a physician or other healthcare provider; comparatively few patients had heard about pessaries from any other source. Patients with prior knowledge of pessaries were well informed regarding this treatment option and generally viewed this treatment option negatively, which was independent of a personal history of pessary use. Patients with greater aversion to pessary use were more likely to report a lower level of education and to have previously seen a gynecologist for their condition. These data may provide a starting point for the development of targeted education and counseling interventions and warrant further exploration.

Patients who reported a lower level of education were less likely to have heard about pessaries and less willing to try this treatment option. It has been documented that patients from a lower socioeconomic status, including those who report a lower education level, may be more averse to health interventions and may opt for surgical intervention when choosing between treatment options for a variety of conditions, such as abnormal uterine bleeding (12). Targeted counseling efforts may prove useful in this patient population and, ultimately, limit morbidity and cost among a subpopulation of patients who might instead be inclined to opt for a higher-risk, higher-cost treatment.

Interestingly, while a physician or other healthcare provider was the most commonly cited source of prior knowledge regarding pessary use, only half of patients who had previously seen a gynecologist for their condition had heard of pessaries, despite American College of Obstetricians and Gynecologists (ACOG) literature recommending pessaries as first-line treatment option for POP and SUI (13). Our data reveal that patients who had previously seen a gynecologist their condition were less interested in now pursuing pessaries as a treatment option. It is possible that this population represents a unique subset of patients who were determined to be poor candidates or disinterested in pessaries, possibly based on prior use. It is also possible that pursuing pessary use was not framed positively to subjects in prior counseling, impacting patients' knowledge and opinions of this treatment option. Taken together, these data suggest that it may be useful to investigate the knowledge and impressions of pessary use among primary care providers and Obstetrician-Gynecologists in generalist practice, and to tailor patient counseling efforts to address areas of concern among patients who have had some prior counseling at the time of presentation to subspecialty care.

Factors that anecdotally seem to play a role in patients' aversion to pessary use were not supported by our data. For instance, patients who decline pessary use in our practice have occasionally made comments indicating that pessaries are for "older women" and that they are "too young" for a pessary. Study participants reported a mean perceived age of pessary users that was significantly younger than the mean age of respondents. Patient concerns about pessary self-care at home or being able to physically come in for follow-up care were also not commonly found among survey participants.

We have published similar work about vaginal mesh surgery and note some interesting differences in patient knowledge and perceptions of these two treatment options (14). Information about vaginal mesh was most commonly obtained by patients from popular media and/or friends and family, but information about pessaries in this study

overwhelmingly came from a physician or other healthcare provider. Few women had heard about pessaries from any other source, supporting the concept that pessaries are not well publicized in lay media. We noted significant misperceptions regarding mesh surgery among new patients and a strong aversion to care with this treatment option. In contrast, patients with prior knowledge of vaginal pessaries were fairly well informed about this treatment option; however, similarly presented with significant aversion to pursuing this treatment option.

As with any patient survey, our work has limitations. Because there is no validated instrument on which we could base questions, the survey was composed based on expert opinion similar to an instrument used in prior work (14). Questions were piloted for comprehension. As the survey was anonymous, we could not review medical charts to verify demographic or medical information. Response rate to the survey was not tracked, and it is possible that the population of patients who chose not to complete the survey possess a unique set of characteristics, which is not reflected in the data. As with any convenience sample, it is also possible that simply by sampling error subjects may not be representative of the national population. Demographic information reveals that subjects in this study are more highly educated than a nationally representative sample of patients, with more than half of respondents indicated having completed a bachelor's or more advance degree. As a tertiary referral center with a large portion of patients referred after having failed a prior treatment, it is also possible this new patient population includes women who have specifically been referred due to pessary failure. To attempt to address this issue, we have stratified some analyses.

Our study is the first of its kind providing a glimpse into patient knowledge and impressions of pessary use prior to presenting for care at a tertiary referral center. Only half of new patients presenting for care had previously heard of pessaries. The vast majority of patients with prior knowledge of pessaries had gained their knowledge from a physician or other healthcare provider: comparatively few patients had heard of pessaries from any other source. Patients with prior knowledge of pessaries presented with a generally negative view of this treatment option, which was independent of a prior history of pessary use. Our data highlight two subpopulations of patients with greater aversion to pessary use: patients from a lower educational background and patients who have previously sought treatment for their condition with a gynecologist. Further research is needed to explore why patients from a lower educational background may decline pessary use and to define the knowledge and perceptions of pessaries among primary care providers and obstetricians gynecologists in generalist practice in order to improve counseling. Our study is the first to identify these factors as influencing patient choice between treatment options for POP/SUI. Counseling interventions targeted at these patients may, in turn, limit patient morbidity and cost.

Appendix

There are many treatments for pelvic organ prolapse and urinary incontinence, including management of symptoms with a **vaginal pessary**. Pessaries, also known as “rings” or “donuts,” are silicone devices that are placed in the vagina to improve prolapse or urinary leakage symptoms. This is a **brief, two page survey** regarding pessary use.

1. Why are you here today? Circle any that are true:
- a. Urine leakage
 - b. Pelvic organ prolapse/dropped organs
 - c. Both of these problems
 - d. Neither of these problems, I'm being seen for something different.
2. Have you sought treatment for this condition before with a gynecologist? YES NO
3. Your Age _____
4. Highest education level you have completed:
- ☐ 8th grade ☐ High school ☐ College ☐ Graduate degree
5. Have you heard anything about the use of pessaries for prolapse or incontinence? YES NO
- If NO, please stop here. If YES, please continue:
6. Where did you hear about pessaries? Circle any that are true.
- a. Internet
 - b. Magazine, newspaper or television
 - c. Friend/family member who has used one
 - d. Friend/family member who has not used one
 - e. Another physician or health-care provider
7. Please circle any statements that are true about pessaries :
- Pessaries...:
- a. fix dropped pelvic organs, "prolapse."
 - b. fix urine leakage with coughing, sneezing, running.
 - c. fix urine leakage when you can't get to the bathroom in time.
 - d. fix problems with bowel movements.
 - e. are riskier than surgery.
 - f. less risky than surgery.
 - g. do not have to be removed.
 - h. need to be removed for urination.
 - i. cause infections (bladder infections, vaginal infections such as yeast infections).
 - j. can cause ulcers.
 - k. have to be removed by the patient (me) and I don't think I could do that.
 - l. need routine cleanings in the office and I don't think I could make it in.
8. Have you used a pessary before? YES NO
9. If you have used a pessary before, how would rate your past experience with pessary use?
- ☐ Positive ☐ Negative ☐ Neutral
10. What do you think the average age is of women who use pessaries? Please circle an age below
- 20s or younger-----30s-----40s-----50s-----60s-----70s-----80s or older
11. What is your overall impression of pessaries? Please circle a number below.
- 0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10
- Negative Neutral Positive
12. If a pessary was suggested to you for treatment of your condition, would you consider it?
- ☐ Yes ☐ No ☐ Maybe
13. Please use the space below for any comments you have:

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Summary sentence

Patients presented to urogynecologic care with aversion to pessary use; patients who indicated they would decline pessary use were more likely to have previously seen a gynecologist and to report a lower level of education.

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Table 1
Demographics of the study population

Demographics including mean age, educational background, reason for new patient visit, and history of prior evaluation with a gynecologist are described.

	All patients (n=254)	Patients who had heard of pessaries (n=130)	Patients who had not heard of pessaries (n=121)	
Mean Age (standard deviation, range)	n=251	n=129	n=120	
	56.6 (15.2, 20-88)	59.9(13.0, 31-88)	53.1 (16.7, 20-88)	p=<0.01, *
Highest level of education completed, n (%)	n=251	n=126	n=119	
8 th grade	3 (1.2)	0 (0.0)	3 (2.5)	
High school	77 (30.7)	30 (23.3)	44 (37.0)	
College	103 (41.0)	59 (45.7)	44 (37.0)	
Graduate Degree	68 (27.1)	40 (31.0)	28 (23.5)	p=0.02, **
Reason for visit, n (%)	n=250	n=127	n=120	
Urine leakage	75 (30.0)	23 (18.1)	51 (42.5)	
Pelvic organ prolapse	67 (26.8)	49 (38.6)	17 (14.2)	
Both urine leakage and pelvic organ prolapse	81 (32.4)	52 (40.9)	28 (23.3)	
Neither of these problems	27 (10.8)	3 (2.4)	24 (20.0)	p=<0.01 ***
Previously saw gynecologist for their condition, n (%)	n=246	n=125	n=118	
Yes	150 (61.0)	97 (77.6)	51 (43.2)	
No	96 (39.0)	28 (22.4)	67 (56.8)	p=<0.01 ***

* Student's t-test comparing mean age among those with and without prior knowledge of pessaries;

** Pearson's chi-squared test comparing level of education among those with and without prior knowledge of pessaries;

*** Fisher's exact test respectively comparing reason for new patient visit (POP/UI vs. neither of these problems) and having previously seen a gynecologist among those with and without prior knowledge of pessaries

Table 2
Patient sources of information, experience and beliefs related to pessaries

Patients' sources of information, prior history of pessary use, beliefs and impressions of pessaries are described.

Sources of information	n=130, n (%)
Internet	13 (10.0)
Magazine	6 (4.6)
Friend/family member who has used one	17 (13.1)
Friend/family member who has not used one	9 (6.9)
Physician or healthcare provider	100 (76.9)
Patient belief[*]: "Pessaries..."	n=128, n (%)
fix dropped pelvic organs, 'prolapse.'	58 (45.3)
fix urine leakage with coughing, sneezing, running."	30 (23.4)
fix urine leakage when you can't get to the bathroom in time."	19 (14.8)
fix problems with bowel movements."	5 (3.9)
are riskier than surgery."	1 (0.8)
are less risky than surgery."	82 (64.1)
do not have to be removed."	11 (8.6)
need to be removed for urination."	2 (1.6)
cause infections (bladder infections, vaginal infections such as yeast infections)."	16 (12.5)
can cause ulcers."	11 (8.6)
have to be removed by the patient (me) and I don't think I can do that."	20 (15.6)
need routine cleanings in the office and I don't think that I could make it in."	12 (9.4)
Personal history of pessary use	n=128, n (%)
Yes	48 (37.5)
No	80 (62.5)
Prior experience with pessary use	n=48, n (%)
Positive	9 (18.8)
Neutral	5 (10.4)
Negative	34 (70.8)
Perceived age of women who use pessaries	n=94 (standard deviation, range)
	55.6 (9.9, 35-80)
Overall impression of pessaries on a Likert scale 0-10 (0= negative, 10= positive)	n=102 (standard deviation, range)
	3.6 (2.2, 0-10)
Would you consider using a pessary?	n=107, n (%)
Yes	29 (27.1)
Maybe	42 (39.3)
No	36 (33.6)

* Respondents could choose more than one option

Table 3
Aversion to pessary placement: Results of univariable and multivariable logistic regression models*

Results of univariable and multivariable logistic regression models, with aversion to pessary placement as the primary outcome interest, are presented.

Univariable Regression	Odds Ratio (95% Confidence Interval)	P value
History of previously seeking treatment with a gynecologist	4.4 (1.2, 16.1)	0.03
Level of education	0.5 (.3-1.0)	0.03
Multivariable Regression		
History of previously seeking treatment with a gynecologist	4.3 (1.2-15.9)	0.03
Level of education	0.6 (.3-1.0)	0.05

* Models were limited to participants who were seen in clinic for a relevant condition and indicated prior knowledge of pessaries. Univariable regression input variables included the following: patient age, having previously sought evaluation with a gynecologist, level of education, sources of information, beliefs regarding pessaries, previously having used a pessary and impression of age of pessary users. The outcome variable (aversion) is defined as a response of “no” (as opposed to a “yes” or “maybe” response) when the subject was asked if she would consider pessary placement. Independent predictors of aversion to pessary use in the univariable model were then entered as input variables in the multivariable model.