

Pessary Practices of Nurse-Providers in the United States

Katharine O'Dell, PhD, CNM, WHNP-BC,* Shanna Atnip, MSN, WHNP-BC,†
Gwendolyn Hooper, PhD, FNP, CUNP,‡ and Katherine Leung, MPH§

Objectives: Our purposes were to describe pessary-care practices and education of a sample of nurse providers in the United States and identify a cohort of high-volume providers.

Methods: An e-mail survey was sent to members of 3 related nursing professional organizations. Questions addressed general pessary care within the respondent's practice and specific pessary care choices of responding direct providers. Data were managed using REDCap electronic data capture tools.

Results: Of 323 respondents, 279 (86.4%) reported pessary care occurred in their office settings, 84.5% of which were urban or suburban, and 65.4% were private practices. Responders were evenly distributed through 4 regions of the United States and represented a variety of specialties. Physicians and advanced practice registered nurses provided the majority of care (up to 80%), along with registered and licensed practical nurses and medical assistants. Care routines varied, most often including 3-month-interval follow-up with speculum-assisted vaginal examinations and no routine use of vaginal products (eg, moisturizers, acidifiers, antimicrobials, or vaginal estrogens). On-the-job mentoring was the primary knowledge source (64%). Comparison of practice patterns suggested possible variation by region and certification.

Conclusions: This exploratory study provides data related to the pessary-care practices of nurse providers in the United States. The range of responses emphasizes a need for evidence-based guidelines for optimal care, based on patient outcomes, satisfaction, and costs of care. Findings also illustrate a need for effective, evidence-based educational programs and clinical mentorship options with experienced providers. A cohort of expert providers was identified to continue work toward these goals.

Key Words: nurse providers, pessary education, pessary practices

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Pelvic organ prolapse (POP), including descent of the bladder, bowel, uterus, and/or vaginal apex, has been reported in more than half of postmenopausal community-dwelling women.¹ As the population ages, it is expected that POP will become increasingly prevalent.² Although not always symptomatic or bothersome, POP may have severe negative effects on quality of life, including symptoms such as urinary or bowel retention or incontinence, pelvic pressure and pain, bleeding or hemorrhage from exposed and abraded vaginal epithelium, compromised body image, and/or limitations of sexual and physical activity. Because of their relatively low cost and low risk, recent quality care guidelines have recommended vaginal support pessaries as the first-line treatment for symptomatic women with POP.³ Despite this reemerging

interest in pessary use, specifics of pessary management continue to be informed primarily by expert opinion and patient preference.^{4,5} Pessary care in the United States is provided by a range of professionals, including both physicians and nurses from a variety of specialties, with varied credentialing and pessary-related education. In a survey of physician providers, no predominant pattern of general pessary practice was identified.⁶ A recent expert physician panel also reported difficulty in reaching consensus on specific quality indicators for pessary care.³

Although pessary care is often provided by nursing and other allied health staff, little is known about pessary-related preferences, education, and practices of nonphysician providers. The primary purpose of this study is to describe pessary practices and educational backgrounds of nurse providers who are members of related professional organizations in the United States. The secondary purpose is to identify high-volume pessary practitioners willing to participate in further projects related to pessary care and provider education.

MATERIALS AND METHODS

For this descriptive study, e-mail surveys were circulated to the complete membership lists of the American College of Nurse-Midwives (7770 members), the American Urogynecologic Society Allied Health Section (134 members), and the Society of Urologic Nurses and Associates (2250 members). These societies were selected by coinvestigator consensus as likely to have nurse members with a variety of educational and practice backgrounds, some of whom would be providing direct pessary care; however, as no data were available to predict the percentage of these members working in practices where pessary care was provided, it was assumed a valid response rate could not be identified, making study results exploratory rather than generalizable.

The study was approved as exempt by the 3 institutional review boards overseeing the coinvestigators. Consent to use member mailing lists was also obtained from the 3 professional societies involved in the study. The survey used in the study was developed by consensus of a convenience group of nursing and physician pessary providers. Text is available in Supplemental Digital Content 1, <http://links.lww.com/FPMRS/A20>. Members on the member-e-mail lists of these professional societies were asked to complete the survey only if any provider in their practice site managed care for women with pessaries. The survey potentially truncated at 2 points: (1) if the respondent erroneously began the survey but then reported pessaries were not used in their practice, and (2) following general questions about pessary use in the practice setting, if respondents reported they did not themselves provide direct pessary care. Analysis included only responses of those reporting direct pessary care was provided in their practice location. Participants were asked to complete the survey within 30 days of receiving the single e-mail. Respondents had the option to remain anonymous, with no follow-up contact. However, within the survey, higher-volume providers, defined as those providing care to more than 10 pessary users per month, were asked to voluntarily provide contact information if they were willing to participate in further research.

Study data were collected and managed using REDCap electronic data capture tools hosted at the University of Massachusetts

From the *Division of Pelvic Medicine and Reconstructive Surgery, University of Massachusetts Memorial Medical Center, Worcester, MA; †Division of Urogynecology and Reconstructive Pelvic Surgery, Parkland Health & Hospital System, and The University of Texas Southwestern Medical Center, Dallas TX; ‡Capstone College of Nursing, The University of Alabama, Tuscaloosa, AL; and §Department of OB/GYN, University of Massachusetts Medical School, Worcester MA.

Reprints: Katharine O'Dell, PhD, CNM, WHNP-BC, University of Massachusetts Memorial Medical Center, Jaquith Bldg 2012, 119 Belmont St, Worcester MA 01605. E-mail: odellk@ummhc.org.

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Medical School. Sample characteristics were described using *n* and percent or mean and SD. Group comparisons were made using Fisher exact tests.

RESULTS

A total of 323 professional society members responded to the survey, but only 279 (86.4%) reported pessaries were used in their practice setting. Responses of those 279 participants were included in the overall analysis. Table 1 presents general information related to practice location, specialty, and pessary-related staffing. The practices fell within a variety of expected specialties, including urogynecology, urology, general obstetrics and gynecology, and primary care. Respondents were evenly dispersed between the 4 regions of the United States, with 84.0% in urban or suburban settings, and 65.4% in private practices. Within these practices, pessary care was most often provided by physicians and advanced practice registered nurses (APRNs) (up to 80%), although in some practices both fitting and follow-up were reportedly provided by medical assistants and licensed practical nurses (approximately 1% for each category) and registered nurses (approximately 10%).

Of the 279 included respondents, 216 reported they were direct providers of pessary care. Specific pessary practices of these providers are presented in Table 2. Of those respondents, 188 reported licensure as APRNs, with 146 practicing for more than 5 years. The majority (approximately 70%) reported caring for less than 10 women with pessaries per month.

When asked to choose the 3 patient characteristics they felt were most important for guiding initial pessary choice, direct providers most frequently selected stage or site of prolapse (67.6%), followed by diameter of the introitus (42.6%), the woman's desire or ability to do self-care (32.4%), and her preference related to sexually activity (31%). More than 70% of respondents did not routinely recommend any vaginal products to pessary users, including moisturizers, acidifying gels, vaginal estrogens, or antimicrobials. However, only 4.2% reported never recommending vaginal estrogen products. Return visits after initial fitting were most commonly scheduled in 1 to 2 weeks for all types of pessaries. Approximately 70% of responders routinely scheduled return visits every 3 months for women using all types of pessaries, although information about self-care practices was not specified. Pessaries were most often ordered from a single company, with approximately 50% keeping stock in their office.

When mechanical irritation was identified, the most common interval for pessary removal prior to reinsertion was 2 to 3 weeks (52.9%), but 20% waited 4 weeks or longer. Routine practices at pessary follow-up visits varied, but most common components included interval history (86.1%), blood pressure (83.3%) and weight (70.4%) assessment, external genital exam (90.3%), speculum examination at the time of pessary removal and cleaning (74.1%), no routine vaginal cleaning (32.9%), and soap and water cleaning of the pessary (54.4%).

Ring pessaries were the most common pessary used (mean estimated use of 61.5% [SD, 28.7%]), followed by Gellhorn (17.8% [SD, 20.34%]), donut (11.3% [SD, 22.2%]), and cube pessaries (4.6% [SD, 10.9%]). Of providers who used cube pessaries, more than 80% used only those with drainage holes (Table 2). Respondents' estimates of sources of knowledge for their pessary practice are presented in Figure 1. Their primary knowledge source was reported to be on-the-job mentoring, either by physicians (45.7% [SD, 39.0%]) or other nurses (18.5% [SD, 30.9%]).

Selected pessary-care practices were then compared by nurse licensure and region of the country to explore differences in patterns of practice. However, of the 221 participants who reported their licensure, 84.2% were APRNs. Non-APRNs included 23

TABLE 1. General Background of Respondents Reporting Pessary Use at Their Practice Site

	n	%
Pessary fitting or follow-up provided on site	279	86.4
Region* (277 responded to this item)		
Midwest	65	23.5
Northeast	76	27.4
Southeast	76	27.4
West	60	21.7
Locale (281 responded; >1 response was allowed)		
Urban	124	44.1
Suburban	112	39.9
Rural	45	16.0
Practice type (254 responded; >1 response was allowed)		
Academic medical center	65	23.3
Private office practice	103	36.9
Physician-owned practice	79	28.3
Nurse-owned practice	7	2.7
Managed care organization	4	1.6
Hospital-owned practices	7	2.7
Governmental (military, Veterans Affairs, public health or rural clinic)	7	2.7
Specialty (256 responded)		
Urology	52	20.3
Urogynecology	50	19.5
Gynecology	12	4.7
Obstetrics and gynecology	106	41.4
Family practice or primary care	8	3.1
Other	28	10.9
Staff member(s) fitting pessaries (requested to check all that apply).		
Medical or nursing assistant	4	1.4
Licensed practical nurse	4	1.4
Registered nurse	23	8.2
APRN	195	69.9
Physician assistant	27	9.7
Physician	202	72.4
Staff members providing follow-up care (requested to check all that apply).		
Responded follow-up not provided at practice postfitting	1	0.4
Licensed practical nurse	6	2.2
Registered nurse	28	10.1
APRN	220	79.4
Physician assistant	32	11.6
Physician	193	70.7

*Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; Southeast: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virgin Islands, Virginia, Washington DC, West Virginia; West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, Wyoming.

TABLE 2. Pessary Practices Reported by Individual Providers

Question	n	%
Respondent is a pessary provider	216	79.4
No. women for pessary fittings or follow-up seen per month		
≤10	150	69.8
11–50	49	22.8
51–100	12	5.6
≥101	4	1.9
Active licensure (check all that apply)		
Licensed practical nurse	3	1.4
Registered nurse	125	57.9
APRN	180	83.3
Physician assistant	2	0.9
Other	24	11.1
Duration of pessary-care practice, y		
<1	12	5.6
1–5	57	26.5
6–15	90	41.9
>15	56	26.0
Most important information used to aid fitting (select 3)		
Always start with the same type of pessary	39	18.1
Users' desire to perform self-removal and reinsertion	60	27.8
Users' ability to perform self-removal and reinsertion	70	32.4
Sexual activity choices	67	31.0
Willingness to use vaginal estrogen	22	10.2
Pelvic floor muscle strength	55	25.5
Diameter of introitus	92	42.6
History of hysterectomy	17	7.9
Stage or site of prolapse	146	67.6
Other	22	10.2
Recommendations for vaginal products with pessary use		
Vaginal moisturizers		
Routinely	47	22.2
Only for symptoms such as dryness	72	34.0
Not typically recommended	93	43.9
Acidifying vaginal product (eg, Trimo-San)		
Routinely	69	32.4
Only for symptoms such as discharge or odor	67	31.5
Not recommended	77	36.2
Vaginal estrogen product (cream, tablets, or ring)		
Routinely for postmenopausal women	53	24.5
Only for symptoms related to atrophy	98	45.4
Would consult with oncologist for women with breast cancer history	56	25.9
Not recommended	9	4.2
Vaginal antimicrobials (eg, metronidazole or clindamycin)		
Only for symptoms such as odor and/or discharge	32	14.9
Only for positive findings on wet prep or culture	117	54.4
Not recommended	66	30.7
Routine initial return visits		
Ring pessary, wk		
1–2	113	54.3
3–4	60	28.8

TABLE 2. (Continued)

5–6	21	10.1
Varies too much to answer	14	6.7
Gellhorn pessary, wk		
1–2	108	57.4
3–4	40	21.3
5–6	10	5.3
Varies too much to answer	30	16.0
Cube pessary, wk		
1–2	94	56.3
3–4	26	15.6
5–6	8	4.8
Varies too much to answer	39	23.4
Use only cube pessaries with drainage holes	151	84.8
Routine return intervals		
Ring pessary, mo		
Every 3	150	73.2
Every 6	18	8.8
Every 12	8	3.9
Varies too much to choose an answer	29	14.1
Gellhorn pessary, mo		
Every 3	133	70.0
Every 6	12	6.3
Every 12	5	2.6
Varies too much to choose an answer	40	21.1
Cube pessary, mo		
Every 3	90	54.2
Every 6	11	6.6
Every 12	5	3.0
Varies too much to choose an answer	60	36.1
Interval pessary is typically left out for mechanical irritation, wk		
<2	39	18.9%
2–3	109	52.9%
4–6	40	19.4
>6	2	1.0
Varies too much to choose an answer	16	7.8
Components of typical routine pessary care return visit (216 responded)		
Interval history	186	86.1
Urine dipstick	70	32.4
Weight	152	70.4
Blood pressure	180	83.3
Abdominal examination	36	16.7
External genital examination	195	90.3
Pessary removal, cleaning, no internal examination before reinsertion	62	28.7
Pessary removal, cleaning, with speculum-assisted inspection	160	74.1
No routine cleaning of vagina is performed	71	32.9
Vagina is routinely swabbed with a water-soluble gel for cleaning	8	3.7
Vagina is cleaned or douched with water routinely		
Vagina is cleaned or douched with water for increased discharge	16	7.4
Vagina is routinely cleaned or douched with a dilute vinegar solution	7	3.2

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TABLE 2. (Continued)

Question	n	%
Vagina is cleaned or douched with a dilute vinegar solution for symptoms	10	4.6
Vagina is cleaned or douched using a solution including antiseptic	18	8.3
Vagina is cleaned or douched with an antiseptic solution for symptoms	34	15.7
The woman brings prescribed vaginal estrogen product for use at visit	41	19.0
An antimicrobial cream is inserted prior to the reinsertion	0	0
Pessary is cleaned with soap and water	171	54.4
Pessary is cleaned with a disinfectant)	40	18.5
Other routines	11	5.1
Supply management (requested to choose all that apply)		
Variety of pessaries stocked in-house/ordered from a single company	106	49.1
Variety of pessaries stocked in-house/ordered from several companies	48	22.2
Fitting pessaries are used/pessary is then ordered	46	21.3
Fitting kit provided by manufacturer is used/pessary is then ordered	50	23.1
Woman is referred for fitting/returns to practice for follow-up	8	3.7
Other	5	2.3

RNs, 3 LPNs, 2 physicians, and 7 other. The low response from non-APRNs precluded meaningful comparisons of their practice choices. Regional comparisons of practice patterns for APRN respondents are presented in Table 3. These respondents were evenly divided across 4 regions of the United States. These findings suggest similarities in practice patterns may be more common between the Midwest and Northeast and between the Southeast and West regions.

Of the 65 respondents who reported providing care to more than 10 pessary users per month, 53 (81.5%) agreed to be contacted for future research.

DISCUSSION

The primary purpose of this study was to explore practice patterns of nurse providers of pessaries in the United States. Although nurses are known to provide pessary care in other countries,⁷ specific patterns of nurse-provided pessary care remain understudied. This knowledge becomes increasingly important as pessary use increases, health care cost containment is emphasized, and physician shortages are predicted.

Currently, vaginal support pessaries remain underutilized. Despite being the recommended first-line treatment for symptomatic women,³ with fitting success possible in more than 80% of symptomatic women,^{8,9} recent US Medicare data suggest that only 11.6% of women with POP obtained pessary care.¹⁰ Still, although pessary use is low risk, adverse events, including fistulae, obstruction, or hemorrhage, do occur and can be life threatening. For example, Alperin et al¹⁰ identified billing codes for vesicovaginal or rectovaginal fistulae in 3% of pessary users over 9 years of follow-up. While adequate access to safe, quality pessary care is an important part of optimal care for women, our study demonstrates that pessary-care practices vary markedly among these nurse providers, a finding that is similar to reports for physician-provided care.^{3,6} In the physician study by Cundiff et al,⁶ routine

follow-up interval recommendations were not reported by type of pessary or by self-care practices. In our study, we did determine that for all pessary types, 3 months was the most common interval for follow-up, but the percentage of these women performing self-removal and cleaning was still unclear. In addition, the 3-month intervals preferred by some respondents result in more visits per year than is recommended as a national quality measure³ and may be unnecessarily increasing health care costs and burden. Our study supports the finding of Alperin et al¹⁰ that practice patterns vary not only between individual providers, but also by region of the country. This finding also suggests important implications to the cost-effectiveness of pessary follow-up care.

Respondents did report some common pessary practices identified by other investigators. For example, respondents reported most frequently relying on stage or site of prolapse (67.6%), diameter of the introitus (42.6%), and the woman's desire or ability to do self-care and preference related to sexual activity (each approximately 30%) as guides to initial pessary choice. Some previous studies have also identified findings such as wider genital hiatus^{11,12} and advanced posterior compartment prolapse¹³ as predictors of difficult pessary fitting. However, in other studies, factors such as age, weight, vaginal length, size of genital hiatus, compartment of prolapse, stage of prolapse, and hormone use have been reported to be nonpredictive.^{8,13,14} In our study, 95.8% of respondents reported recommending vaginal estrogen at least to some pessary users, similar to the 94% use previously reported among physician providers.⁶ Ring variations were estimated to be the most commonly used pessaries in our study (61.5%), which also concurs with other reports.¹⁵ Cube pessaries, on average, were used by only 5% of women in our study, with 80% of the providers using only cube pessaries with drainage holes. This low use of cube pessaries may be an example of the limitations put on practice by expert opinion and warrants further study. While Wu et al¹⁵ reported low rates of complication with cube pessaries at 3-month follow-up visits over time, authors continue to refer to cube pessaries as a pessary of last resort, while referencing prior opinion.^{16,17} Meanwhile, the self-retaining quality and potentially very small size of cube pessaries, down to 25 mm for a size 0, make them a very comfortable option for some women with introital stenosis who cannot do self-care. Most respondents in our study reported they relied predominantly on mentoring from more experienced physicians or nurses for their practice knowledge, highlighting the need for additional evidence to inform care.

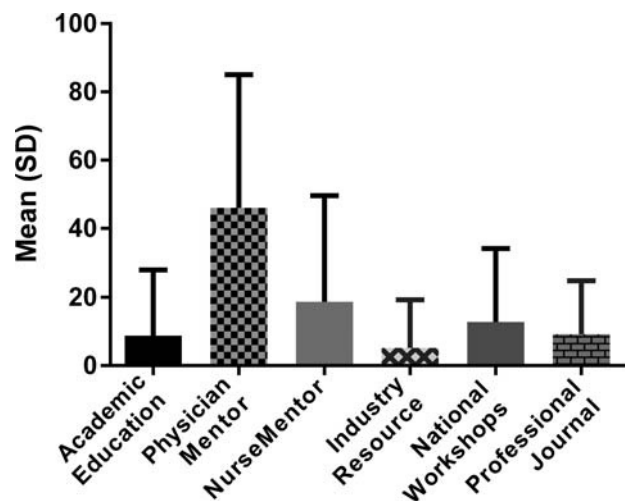


FIGURE 1. Sources of pessary-related knowledge (estimated percent reported as mean and SD).

TABLE 3. Pessary Practices by Region of the United States

	Region								<i>P</i>
	Midwest		Northeast		Southeast		West		
	n	%	n	%	n	%	n	%	
Respondents who were APRNs	45	81.8	47	85.4	54	85.7	40	83.3	0.940
Always fit same pessary type first	14	21.5	7	9.2	9	11.7	11	18.3	0.144
Recommend vaginal estrogen									
Routinely in postmenopausal women	8	16	11	20.8	20	31.8	17	34.7	0.039
Only for symptoms of atrophy	23	46.0	24	45.3	34	54.0	21	42.9	
Consult oncologist if with breast cancer history	19	38.0	18	34.0	9	14.3	11	22.5	
No routine speculum exam at routine follow-up visit	19	29.2	24	31.6	12	15.6	10	16.7	0.042

Strengths of this study include its novel purpose; despite increasing use of pessaries in a variety of practice settings, little has been known about the pessary practices of nurse providers in the United States. The diversity of nursing specialties responding, as well as identification of topics that resulted in either high or low consensus, suggests areas for future study to identify optimal practice and educational standards.

Limitations include those inherent to use of an e-mail survey, which was designed to protect anonymity of responders and disseminated only once. Particular to this study, findings cannot be generalized, as a valid response rate cannot be calculated. We do not know what percentage of the members of these professional societies are pessary providers who did not respond versus the percentage who work in practices where pessaries are not managed at all. This underscores that the percentage of pessary care provided by nurses in the United States remains unclear. While Alperin et al¹⁰ reported that 99% of Medicare pessary visits were billed under that name of a physician, this may not describe the staff actually performing the direct care for women. In our survey, we did not ascertain if responders billed under their own name, so billing practices are not further illuminated. Although free-text comments were obtained (responses not included), data reported here are primarily limited by the questions asked in this study-specific survey. For example, we did not ask for estimates of the age range of pessary users in the practice, or general health status, and these factors may also affect choice of return intervals. We also did not clearly ascertain whether responding providers varied return intervals specifically by whether women were performing self-removal and/or whether a standard routine of self-removal was encouraged. While our findings suggest there may be regional differences in pessary care routines, the low level of non-APRN responses precluded analysis of practice patterns by licensure. In addition, to preserve confidentiality, we did not ask respondents to identify their society membership(s). For this reason, it is not clear if the low response of non-APRNs is due to their nonprovision of care. Non-APRNs may also not tend to be members of the selected professional organizations, although both the American Urogynecologic Society and the Society of Urologic Nurses and Associates encourage non-APRN membership. Finally, while it is possible that responders were members of multiple organizations and could have sent multiple survey responses, we feel this is unlikely due to the single mailing, request for single response, and limited response window of 30 days.

Our findings have implications for both practice and research. They emphasize the opportunities to evolve pessary practice from opinion-based traditions toward quality outcomes-based standards of evidence-based care. They suggest opportunities for these standards to include input not only from physician experts,

but also from the full variety of providers who collaborate in pessary care, as well as the women who are pessary users. The possibility of regional differences in pessary practice in the United States is supported, suggesting an opportunity to explore potential underlying influences, such as variations in access, provider or cultural biases, and educational backgrounds of providers. Just as insights can be gained from a national survey, international comparisons may prove even more illuminating. For example, Australian evidence-based guidelines for standardized pessary care have been published¹⁷ and include a recommendation for office follow-up of pessary users at 4- to 6-month intervals for women not performing self-care. However, where empirical evidence was lacking, those guidelines also rely heavily on expert opinion, with cited references often from the United States.

The range of practice strategies in our study suggests that there may be many avenues to safe practice. For this reason, factors such as patient satisfaction and cost of care should be prioritized as standards for optimal pessary care are generated. Findings illustrate a dearth of evidence to inform such topics as the relative safety of various pessary shapes and optimal intervals and components of care at revisits. Best practices for formal education related to pessary care should be identified and may include improved clinical prolapse models, audiovisual instruction, and standards for mentorship.

Our findings also inform the research agenda needed to develop outcome assessment and quality-of-care indicators to evaluate both clinical and educational progress. As a secondary goal, our study identified a cohort of high-volume pessary providers interested in pursuing this future research.

In conclusion, this exploratory study was a novel attempt to better understand the management practices of a diverse group of nurse providers caring for women with vaginal support pessaries in the United States. Despite their low risk and high effectiveness, pessaries remain underutilized. Nurse providers will play an important role in expanding access to this option for nonsurgical prolapse care. Although the findings cannot be generalized, the range of provider responses to this survey emphasizes the need for evidence-based guidelines that move beyond expert opinion and toward optimal care informed by patient safety and satisfaction, as well as by costs of care. Findings also illustrate the opportunity to evaluate and standardize formal educational programs and mentorship for pessary-related education.

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