GYNECOLOGY

Measuring the quality of care provided to women with pelvic organ prolapse

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OBJECTIVE: Health care providers are increasingly being evaluated by the quality of care they provide. Our aim was to assess the feasibility of recently developed quality indicators (QIs) for pelvic organ prolapse (POP) and identify possible deficits in care.

STUDY DESIGN: A panel ranked 14 QIs based on the RAND appropriateness method assessing screening and diagnosis, pessary management, and surgery for POP. Retrospective chart abstraction was performed after identifying patients with a diagnosis of POP evaluated within a hospital-based multispecialty group using *International Classification of Diseases*, ninth edition, diagnosis codes.

RESULTS: Of 283 patients identified, 98% of those with a new complaint of vaginal bulge had a pelvic examination. The POP was described but not staged in 6% and not documented at all in 25.1%. Among those managed with pessaries, 98% had vaginal examinations at least every 6 months. Forty-nine percent of the patients who had surgery had complete preoperative POP staging. Only 20% of women undergoing apical surgery had documentation of counseling regarding different surgical options, and of the women who underwent a hysterectomy for POP, only 48% had a concomitant vault suspension. Although 71% had documentation about the risk of postoperative stress incontinence, only 14.5% had documented counseling regarding risks of mesh. Only 37% of patients implanted with mesh for POP had documented follow-up at 1 year. An intraoperative cystoscopy was performed in 86% undergoing cystocele repair or apical surgery.

CONCLUSION: The quality of care for women with POP can be feasibly measured with QIs. Processes of care were deficient in many areas, and our findings can serve as a basis for quality improvement interventions.

Key words: modified Delphi method, pelvic organ prolapse, quality improvement, RAND appropriateness method

Cite this article as: Alas AN, Bresee C, Eilber K, et al. Measuring the quality of care provided to women with pelvic organ prolapse. Am J Obstet Gynecol 2015;212:471.e1-9.

Quality indicators and measures are used by the US government to collect data on hospitals to measure compliance with evidence-based hospital practices.[1] The theory is that by collecting these measures, which are publicly available, hospitals will be inclined to improve their clinical outcomes and develop their own clinical guidelines to minimize complication rates.[2] This has been demonstrated to be a validated theory in the intensive care unit, with those units being monitored by an intensive care specialist having better clinical outcomes.[3] It is hypothesized that these validated quality measures can then be further used by employers and insurance payers to develop policy.[2]

McGlynn et al[4] used 439 quality indicators (QIs) to measure the quality of medical care for US adults and found that patients received only 54.9% of recommended care. They concluded that the deficits identified in adherence to recommended processes for basic care pose "serious threats to the health of the American public."[4] Although a great deal

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Received July 29, 2014; revised Oct. 2, 2014; accepted Oct. 28, 2014.

This study was supported by National Institute of Diabetes and Digestive and Kidney Diseases grant K23 DK080227-01 (J.T.A.).

K.E. is a consultant for American Medical Systems, an investigator for American Medical Systems and Boston Scientific, and a speaker for Astellas. C.R. is a shareholder of Johnson & Johnson. The other authors report no conflict of interest.

Presented at the annual meeting of the American Urological Association, Orlando, FL, May 16-21, 2014; the 11th annual winter meeting of the Society of Urodynamics, Female Pelvic Medicine, and Urogenital Reconstruction, Miami, FL, Feb. 25 through March 1, 2014; and the 34th annual meeting of the American Urogynecological Society, Las Vegas, NV, Oct. 16-19, 2013.

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0002-9378/$36.00 • © 2015 Published by Elsevier Inc. • http://dx.doi.org/10.1016/j.ajog.2014.10.1105

of research on quality of care has been conducted in other areas of medicine and surgery, there is still a paucity of data regarding assessment and quality outcomes pertaining to treatment of women with pelvic floor disorders (PFDs).

Extrapolating data from the US Census Bureau and the 2005 National Health and Nutrition Examination Survey, the number of women in the United States with at least 1 PFD will increase from 28.1 million in 2010 to 43.8 million in 2050.[5] The lifetime risk of undergoing surgery for pelvic organ prolapse (POP) by the age of 80 years is 11%.[6,7] Of these, 29% will require reoperation.[6]

It has been estimated that 1 in 9 women will undergo a hysterectomy in her lifetime, and up to 11.6% of these women will require surgery for symptomatic vaginal vault prolapse.[6,8] Despite the large number of women affected by POP, relatively few measures of quality exist.

The primary objective of this study was to assess the feasibility of identification of a recently developed set of POP QIs in the electronic medical record (EMR). Our second objective was to evaluate whether these measures could be used to identify and quantify possible deficits in overall care provided to patients.

Materials and Methods

Approval for this study was obtained from the Cedars-Sinai Medical Center Institutional Review Board. As part of the Evaluating the Quality of Urinary Incontinence and Prolapse Treatment project, we previously developed QIs for both urinary incontinence and POP.[9,10] These QIs were modeled after those described in the Assessing the Care of Vulnerable Elders project using the if-then-because format.[11] For examples, if a woman has symptoms of prolapse, then she should be offered a pessary because pessaries are an effective, low-risk, nonsurgical means to improve symptoms.

These QIs, unlike in the Assessing the Care of Vulnerable Elders project, addressed care for women of all ages, not just vulnerable elders. As previously described, an expert panel of 9 physicians, including 3 urologists with expertise in female urology, 3 internists with expertise in quality-of-care research, and 3 urogynecologists, ranked 14 of 21 potential QIs for POP based on the RAND appropriateness method.[10] The QIs addressed screening, diagnosis, and management of POP (Appendix; Supplementary Table 1).[10] Subjects were identified based on *International Classification of Diseases*, ninth edition (ICD-9), code for POP (codes 618.0−618.9, Supplementary Table 2) who were treated within a multispecialty group based at Cedars-Sinai Medical Center, a tertiary level nonprofit hospital (Los Angeles, CA) between April 1, 2010, and July 31, 2011.

Eligible study subjects needed to have a complaint of POP and qualify for at least 1 QI. Patients who were identified with a diagnosis of POP by ICD-9 codes but were asymptomatic were excluded from the study because they did not receive additional care or surgery. The time frame chosen was the one that occurred after the incorporation of a new EMR.

In addition to primary care providers, 3 fellowship-trained female pelvic medicine and reconstructive surgery (FPMRS) specialists (2 female urologists and 1 urogynecologist), 6 general gynecologists, and 2 urologists who perform prolapse surgery provided the care to the patients in the cohort. Care was assessed at the patient level, meaning that if a generalist provider did not perform an indicated physical examination or specified QI but the patient was referred to specialist physician who did, then the patient received the appropriate care. Primary care physicians and gynecologists did not lose scoring points if they did not complete a QI. Gynecologists were included because they were adequately trained in assessing POP, managed pessaries, performed POP surgery, and performed clinical follow-ups.

This was a retrospective chart abstraction of the EMR performed by trained nurses with experience in chart abstraction and quality assessment. Documentation of counseling was identified through office notes, surgical consents, and operative reports. Office notes and surgical consents were completed by the primary surgeon. All operative reports were reviewed by the primary surgeon if dictated by a resident.

Abstracted data were recorded into a chart abstraction tool and scoring sheet. This abstraction tool was reviewed by a senior nurse consultant at the RAND Corp (C.R.) and tested with a small sample of medical records. Abstractors considered all parts of the patient's records when assessing whether a patient was eligible for and received the indicated care over a 6 month period of time.[12] This allowed adequate time for compliance with each QI.

Because multiple providers performed the pelvic examinations, staging systems were not standardized (ie, both Baden-Walker and Pelvic Organ Prolapse Quantification systems could be used). Partial credit was given for documentation of specific components of the pelvic examination, the anterior, posterior, and apical areas. This was calculated based on the number of evaluated compartments divided by the maximum number of compartments, which was 3. Physicians with expertise in FPMRS reviewed the records that required a more detailed clinical assessment to assess compliance with the QIs.

Patient data were identified with an identification number to protect confidentiality. The database was designed and managed by the Cedars-Sinai Medical Center's Biostatistics and Bioinformatics Core using OpenClinica, an Oracle-based, open source, web-based platform for clinical data management. Statistics were calculated using SAS version 9.2 (SAS Institute, Cary, NC). A QI was considered feasible if it could be identified even once in the EMR.

Quality of care provided was measured by constructing aggregate scores, as described by McGlynn et al.[4] We specified the combination of variables needed to determine whether a patient was eligible for the process denoted by each indicator and whether the patient then received the appropriate evaluation and treatment. Each indicator was scored at 1 of 3 levels, that of the patient,