

Improving the initial pelvic examination experience among college health patients: A quality improvement project

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Although tens of millions of pelvic exams are performed in the United States each year, improved education is indicated as a critical need during the well-woman visit to improve the patient's health literacy, decrease exam-related fears, and promote follow through with additional tests and treatments.¹⁻³ It is widely believed that addressing women's confusion about all cervical cancer screening and anxiety and embarrassment surrounding the pelvic exam are key components to reducing delays in testing or care that could significantly affect health outcomes.^{2,3} A negative experience surrounding the initial pelvic examination for many young women may produce unhealthy future patterns of follow-up screening if exam-related anxiety is not addressed or alleviated.⁴ Additionally, studies reveal that patients' lack

of knowledge of their pelvic anatomy and its function may result in screening delays or refusal of gynecologic exams altogether.²

At a university student health and wellness center, clinic nurse practitioners decided that the present knowledge gap among female patients needed to be addressed to decrease initial pelvic exam anxiety and thereby promote timely cervical cancer screening and follow-up when indicated. It was noted that this patient population included individuals who no longer have parents to navigate their healthcare, which might increase anxiety about experiencing their first pelvic examination.

Care bundles, defined as 3 to 5 evidence-based processes, are implemented in a myriad of healthcare settings and tailored specifically to achieve improved health outcomes for a designated patient population.⁵ For over 20 years, evidence has shown that when several components of evidence-based practice are packaged together in a bundle and consistently implemented in a defined population or healthcare setting, not only can patient safety be optimized but also patient behavior change is possible, potentially positively affecting future patient decisions regarding their healthcare.^{5,6} This quality improvement (QI) project included a bundle of three evidence-informed practices: provider training, an educational video, and a pelvic model demonstration, with the goal to educate the patient and thereby alter negative initial pelvic exam attitudes.

Project purpose

The purpose of this QI project was to increase health literacy concerning pelvic anatomy, the pelvic examination, and cervical cancer screening. The goal was to decrease appointment-related anxiety among patients scheduled for an initial pelvic exam at a student health and wellness center through the implementation of a care bundle.

Description of population and setting

This QI project was completed at a student health and wellness center that provided healthcare for undergraduate and graduate students at a southeastern university. Employees participating in the project were three physicians, eight nurse practitioners, and nursing staff consisting of five medical assistants and three registered nurses. The patients at the student health and wellness center were seen in 4-hour clinic periods 5 days a week, aver-



aging 7 to 10 patients per clinic, with the typical patient appointment time frame being 20 to 40 minutes. The project participants included patients age 21 to 30 years who were English speakers and university students. All genders could participate, provided that the individual had a vagina and cervix. Excluded from the project were patients who had previously had a pelvic exam, or who were unable or unwilling to complete a survey. The project implementation and data collection took place from January 20, 2023, to June 30, 2023.

Description of quality improvement project

This evidence-based QI project included staff onboarding and training conducted by one of the DNP student team members with providers and nursing staff to define and explain the project's goal and implementation. A presentation of all bundle components and delineation of step-by-step process for all staff and providers was discussed. The initial pelvic exam and Pap bundle included laminated posters on the back of exam room doors with a QR code link to a 6-minute educational video created by the National Association of Nurse Practitioners in Women's Health that explained each step of the pelvic examination and Pap test and a demonstration of the pelvic exam and Pap test by the provider using a pelvic model.

The intervention was initiated pre exam by the nursing staff when patients met the inclusion criteria and were willing to participate. The nursing staff introduced the educational video, accessed via QR code using the patient's smartphone or clinic-provided tablet. The provider then reviewed the procedure using an anatomic demonstration model.

Methods used to evaluate outcomes

A detailed description of the QI project was submitted to and approved by the Institutional Review Board (IRB) prior to implementation. Initiation of participation answering the anonymous surveys was acknowledged as implied consent. The pre-exam survey was made accessible to patients via a QR code on the laminated poster that displayed the link to the educational video. An anonymous post-exam survey was made accessible via a QR code provided by nursing staff after the examination. The surveys consisted of three domains of questions: anxiety, health literacy, and procrastination (*Table*).

The patient pre- and post-exam surveys were received in an online password-protected dropbox administered by the project team. Measures compared health literacy regarding a gynecologic exam and gynecologic anatomy

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prior to and after implementation of the pelvic exam and Pap bundle and exam anxiety levels before and after implementation of the bundle. Additionally, the likelihood of scheduling follow-up gynecologic appointments based on the exam experience was measured. Survey responses, which did not include protected health information or demographic data, were collected using Qualtrics-generated surveys and subsequently inputted and evaluated using descriptive statistics via SPSS for data management and analysis.

Outcomes

Between January 20th and June 30th, 2023, patients who met the inclusion criteria and were willing to participate in the QI project were surveyed. A review of the results collected over 6 months identified a total of 39 patients who completed the pre-exam survey and 31 patients who completed the post-exam survey. Of respondents, 90% indicated some level of exam-related anxiety prior to their appointment. Although there were fewer respondents in the post-exam survey, 87% indicated their anxiety was reduced after viewing the pelvic exam video and 90% reported decreased anxiety based on the provider demonstrating the pelvic exam using a pelvic model. Of those who completed the post-exam survey, 90% reported an increase in the understanding of their anatomy following a viewing of the educational video and 94% reported an increase in the understanding of their anatomy following their discussion with the provider. Patients (100%) reported that they were likely to schedule their next routine gynecologic appointment after their positive exam experience.

In the pre-exam survey group, 51% of respondents answered yes to the question about procrastinating in scheduling their initial pelvic exam (*Figure*). Of those who responded "yes," 67% reported that fear or anxiety was the reason they procrastinated. One respondent noted "did not have a present mother, so I was unaware of how important the exam is."

Table. Pre- and post-exam surveys and responses

Domain	Time	Question	Response %/N	
Anxiety	Pre	Have you ever had a gynecologic exam or pelvic exam?	Yes	No
			0%	100% (39)
		How anxious are you about this gynecologic appointment?	Not anxious	Somewhat/ very anxious
			10.3% (4)	76.9% (35)
	Post	Did the video decrease your anxiety?	Yes	No
			83.9% (26)	16.1% (5)
	Did the discussion with the gyn provider that included the pelvic model demonstration decrease your anxiety?	90.3% (28)	9.7% (3)	
Health literacy	Pre	Do you know the steps to a gynecologic exam?	Somewhat/yes	No
			48.7% (19)	51.3% (20)
		How familiar are you with your gynecologic anatomy?	Somewhat/very familiar	Not familiar
			92.3% (36)	7.7% (3)
	Post	Did the video increase your understanding of your anatomy?	Yes	No
			83.9% (26)	16.1% (5)
	Did the discussion with the gyn provider increase your understanding of your anatomy?	93.5% (29)	6.5% (2)	
Procrastination	Pre	Have you procrastinated scheduling this exam?	Somewhat/yes	No
			51.3% (20)	48.7% (19)
	Post	Based on your recent gynecologic experience, are you likely to schedule your next routine gyn appointment?	Yes	No
			100% (31)	–

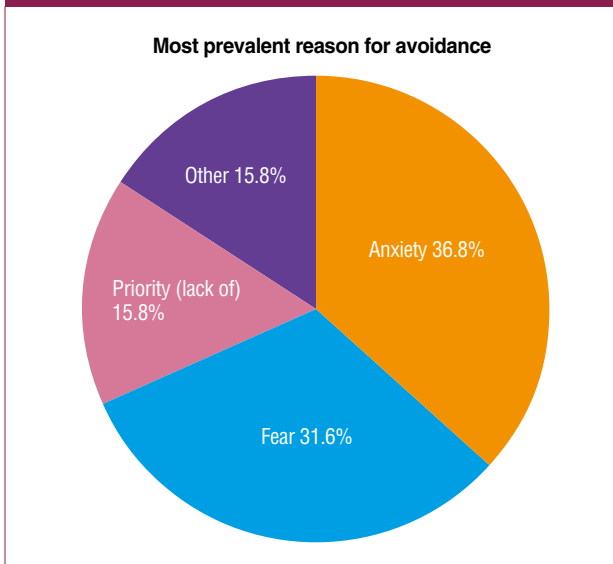
Discussion

This QI project met the goal to increase health literacy and to decrease appointment-related anxiety in patients experiencing their initial pelvic exam. Challenges encountered during the project included the student health and wellness center having an inadequate number of pelvic anatomic models, limited appointment time for education because of the clinic's appointment schedule, and the inability of the entire

project team to be onsite daily for the project's implementation. Limitations to evaluation of outcomes of this QI project included a short implementation time frame (6 months) and a few patients who completed the pre survey but not the post survey, slightly affecting data interpretation.

The QI project was discussed with clinical leadership after completion and data analysis. The providers were satisfied with the results and agreed to consider its sus-

Figure. Responses to “Have you procrastinated scheduling this exam?”



tainability in the clinic. Other than additional pelvic anatomic models, only new staff onboarding and training will be needed for future viability.

Conclusion and implications for practice

The results of this project support existing evidence that many patients need and want to be educated about their anatomies and that lack of knowledge can lead to heightened anxiety related to the initial pelvic exam. A patient's previous lack of access to healthcare, potential sexual trauma, unawareness of the need for screening, and lack of health literacy coupled with fear and anxiety make it critical that the patient's experience of the initial pelvic exam be one that is educative and sensitive to the patient's concerns. The tension reported by some patients in even scheduling their appointment underscores the need to implement the initial pelvic exam and Pap bundle to help mitigate fear, address the unknowns, and improve the likelihood of gyn follow-up in this population.

Timely screening for more patients means early detection, diagnosis, and treatment of gynecologic problems. The inherent simplicity of the initial pelvic exam and Pap bundle makes it easily adaptable for implementation in diverse clinical environments, including gynecology offices and primary care settings. Providers can realize the unique opportunity they have to raise awareness and to decrease and possibly alleviate pelvic exam anxiety by intentional education during the initial pelvic exam experience. Future QI projects should include surveying

students who get routine care in this clinic to determine if the bundle components would have positive outcomes for them as well. Further studies addressing initial pelvic exam anxiety in international students and in gender-diverse students would be beneficial. ■

Lucy Rickman and Emili Jordan are recent DNP graduates from the University of Alabama at Birmingham School of Nursing. H. Nicole Metcalf is a clinical mentor and lead nurse practitioner and Kathleen Pridgen is a clinical mentor and Associate Medical Director at the University of Alabama at Birmingham Student Health Services. Aimee Chism Holland is Faculty Chair at the University of Alabama at Birmingham School of Nursing. The authors have no actual or potential conflicts of interest in relation to the contents of this article.

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