GYNECOLOGY

Adherence to the 2012 national cervical cancer screening guidelines: a pilot study

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OBJECTIVE: The goal of this pilot study was to evaluate adherence to the 2012 cervical cancer screening guidelines among health care providers in a large health maintenance organization.

STUDY DESIGN: A cross-sectional survey evaluating knowledge, reported practices, and views of the 2012 cervical cancer screening guidelines was distributed to 325 health care providers within HealthPartners. The survey was divided into 3 sections: (1) provider demographics; (2) knowledge of the 2012 age-specific cancer screening guidelines; and (3) provider practice. Comparisons based on appropriate knowledge and practice of the guidelines were made using Fisher exact tests.

RESULTS: The response rate was 42%. Of 124 respondents, 15 (12.1%) reported they were not aware of the 2012 guideline changes. Only 7 (5.7%) respondents answered all the knowledge questions correctly. A majority of respondents reported correct screening practices in the 21-29 year patient age group (65.8%) and in the >65 year patient age group (74.3%). Correct screening intervals in the 30-65 year patient age group varied by modality, with 89.3% correctly screening every 3 years with Pap smear alone, but only 57.4% correctly screening every 5 years with Pap smear + human papillomavirus cotesting. The most frequently cited reasons for not adhering were lack of knowledge of the guidelines and patient demand for a different screening interval.

CONCLUSION: Adherence to the 2012 cervical cancer screening guidelines is poor due, in part, to a lack of knowledge of the guidelines. Efforts should focus on improved provider and patient education, and methods that facilitate adherence to the guidelines such as electronic health record order sets.

Key words: cervical cancer screening, guideline adherence, provider survey

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Screening has significantly decreased cervical cancer morbidity and mortality through the detection and treatment of preinvasive lesions, and diagnosis of invasive cervical cancers at earlier stages when treatment is more effective.[1] Pap smear screening was recommended annually for decades in an effort to maximize detection of precancerous lesions. The discovery that infection with the human papillomavirus (HPV) is a necessary cause of cervical cancer has led to the incorporation of HPV tests into routine screening since 2002.[2] Previous cervical cancer screening guidelines focused on maximizing detection of precancerous lesions through frequent screening. However, more aggressive screening can result in colposcopy evaluation and biopsies of lesions that are unlikely to progress to invasive cancer, resulting in patient stress[3] and increased health care costs. Unnecessary excisional procedures can also result in distorted cervical anatomy and an increased risk of preterm delivery in future pregnancies.[4,5] The 2012 revised cervical cancer screening guidelines developed by the American Cancer Society, the American Society for Colposcopy and Cervical Pathology, and the American Society for Clinical Pathology and by the US Preventive Service Task Force aimed to maximize detection of precancerous lesions while minimizing harms. Previous guidelines recommended Pap smear testing alone every 1-2 years or cotesting with Pap smear and HPV test every 3 years for women aged 30-65 years. In contrast, the 2012 guidelines recommend cotesting every 5 years or Pap smear alone every 3 years. For women aged 21-29 years, Pap smear screening alone every 3 years is currently recommended[6] (Table 1).

The 2012 cervical cancer screening guidelines were developed based on extensive systematic evidence reviews, and sought to maintain disease detection

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TABLE 1
ACS/ASCCP/ASCP 2012 cervical cancer screening recommendations[6]

Screening population age	Screening method
<21 y	No screening
21-29 y	Cytology alone (no HPV testing) every 3 y
30-65 y	Cytology and HPV cotesting every 5 y preferred; cytology alone every 3 y acceptable
>65 y	No screening If history of CIN2+, then screen for 20 y after diagnosis
Posthysterectomy	No screening provided following criteria are met: 1) Cervix removed 2) No history of CIN2+ in past 20 y 3) No history of cervical cancer
Post-HPV vaccination	Follow age-specific recommendations (same as unvaccinated women)

ACS, American Cancer Society; *ASCCP*, American Society for Colposcopy and Cervical Pathology; *ASCP*, American Society for Clinical Pathology; *CIN*, cervical intraepithelial neoplasia; *HPV*, human papillomavirus.

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TABLE 2
Demographics and clinical expertise of respondents (N = 135)

Variable	n	%
Degree		
MD/DO	86	63.7
PA	12	8.9
NP	19	14.1
Other[a]	18	13.3
Age, y		
<35	21	15.6
35-50	45	33.3
>50	69	51.1
Sex		
Female	99	73.3
Male	36	26.7
Years in practice		
<5	20	14.8
5-10	21	15.6
>10	94	69.6
Specialty		
Gynecology	31	23.0
Internal medicine	27	20.0
Family practice	52	38.5
Midwifery	19	14.1
Other[b]	6	4.4

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while minimizing the overtreatment of lesions that are likely to resolve spontaneously. However, for the new guidelines to be effective, health care providers and patients must adhere to them. A national survey of health care providers administered annually from 2006 through 2009 showed that 67-94% of providers recommended Pap smear testing at a shorter interval than recommended by the guidelines.[7] To date, there has not been a published study evaluating adherence of health care providers to the most recent (2012) guidelines, which lengthens the screening interval even further than previous guidelines. The goal of this pilot study was to evaluate the knowledge, reported practices, and views of the new (2012) cervical cancer screening guidelines among practitioners in a large health maintenance organization.

Materials and Methods

Survey

A cross-sectional survey was conducted to evaluate health care provider knowledge, reported practices, and views of the 2012 cervical cancer screening guidelines within HealthPartners, a large health maintenance organization in Minnesota that performs approximately 46,000 Pap smears per year. An electronic health record query identified all practitioners in the organization who had ordered screening Pap smears within the past year. An explanatory email with a link to an anonymous World Wide Web questionnaire was sent to the organizational email address of each of these providers. This study was exempt from the institutional review board since it met the criteria for a quality improvement study, and all information was collected anonymously.

The survey was divided into 3 sections: (1) provider demographics; (2) knowledge of the 2012 cervical cancer screening guidelines; and (3) provider practice. The demographic section collected information about provider age, provider gender, number of years in practice, medical specialty and degree, and information about the provider's practice, including frequency with which the provider performs Pap smears and average number of Pap smears performed per year. We also collected information about how the provider learned of the 2012 cervical cancer screening guidelines (email, World Wide Web site, memo/letter, press release, social media, professional organization, other), and how the provider would like to receive guideline updates in the future. The knowledge section presented 6 questions that asked the provider to identify the screening recommendation for each scenario per the 2012 cervical cancer screening guidelines. The questions assumed all previous cervical cancer screening results were normal, and covered 4 patient age groups: <21 years; 21-29 years; 30-65 years; and >65 years. The provider practice section consisted of 15 questions. There were 3 groups of 4 questions, each of which addressed cervical cancer screening for the following age categories: 21-29 years; 30-65 years; >65 years. The questions addressed how providers are screening patients (Pap