Patient Perspectives on Primary HPV Testing for Routine Cervical Cancer Screening

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INTRODUCTION

Driven by advances in screening technologies and an increased understanding of the natural history of cervical cancer, routine cervical cancer screening guidelines have changed from annual screening with cytology to less frequent screening using cytology alone triennially or in conjunction with high-risk human papillomavirus (HPV) testing every 5 years.[1] In August 2018, the United States Preventive Services Task Force (USPSTF) released updated screening recommendations, which added the option for women aged 30–65 to be screened every 5 years with primary HPV testing alone[2] and further solidified interim guidance on primary HPV testing released in 2015.[3] Previous studies have shown patient concerns regarding HPV testing prior to the new guidelines.[4, 5] We assessed women's perspectives on primary HPV testing following the release of 2018 USPSTF recommendations.

METHODS

From September 2018 to January 2019, we conducted a mixed-methods study to identify multilevel factors shaping cervical cancer screening practices across an academic healthcare system; the analysis presented here examines patients' perspectives on primary HPV testing and screening guidelines. Study-eligible women (aged ≥ 21, not considered high risk, and received routine Pap testing between April and August 2018) were identified via electronic medical records and randomly invited in batches to participate. Although primary HPV testing is not currently recommended for women outside the ages of 30–65, we included women in younger and older age groups to assess future acceptance (in women aged 21–29) and perspectives among women who continue to screen beyond age 65. Of the 186 women invited, 46 enrolled and completed a structured questionnaire adapted from previous surveys[4, 5] and semi-structured interview (in-person or via telephone). Quantitative data were analyzed descriptively and qualitative data were analyzed thematically using the constant comparative method.[6] All procedures were approved by the Institutional Review Board.

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RESULTS

The 46 women interviewed ranged in age from 21 to 76 with 67% identifying as White and 24% as Black. Most respondents (70%) thought women their age should have a Pap smear at minimum annually. However, if recommended by their provider, the majority stated they would be screened triennially with Pap smear alone (76%) or every 5 years with Pap and HPV test (57%). A third (35%) said they would be screened every 5 years using HPV testing alone in a future visit, whereas only 11% would prefer it among all recommended screening options (Table 1).

In interviews, women described influential factors shaping their screening practices and perspectives on screening guidelines including uncertainty or discomfort with HPV testing, limited awareness or distrust of extended screening intervals, and provider recommendation and communication (Table 2). Concerns over the evidence supporting guidelines and HPV testing and comfort with cytology further shaped women's views and practices in complex ways. Several women indicated the need for additional information on the effectiveness of HPV testing and individualized recommendations from their provider as potential factors that would increase their comfort with adopting primary HPV testing.

DISCUSSION

This study provides insights into women's perspectives on primary HPV testing following 2018 USPSTF guidelines, highlighting the persistent limited awareness of HPV testing (with or without cytology) as an evidence-based option for

Table 1 Participant Characteristics

Demographics and Screening Preferences	*N*	%
Age (years)		
21–29	10	21.7
30–65	19	41.3
66+	17	37.0
Race/ethnicity		
Non-Hispanic White	31	67.4
Non-Hispanic Black	11	23.9
Other	4	8.7
Education		
High school or less	7	15.2
Some college	10	21.7
College degree	10	21.7
Graduate degree	19	41.3
Income ($)		
< 50,000	20	43.4
50,000–100,000	17	37.0
≥ 100,000	9	19.6
Insurance		
Private	15	32.6
Public	30	65.2
None	1	2.2
Screening/vaccination history		
Ever had an abnormal Pap	20	43.5
Ever had positive HPV test	10	21.7
Received HPV vaccine	12	26.1
Screening beliefs and preferences		
How often do you think a woman your age should have a Pap smear?*		
More than once a year	3	6.5
Every year	29	63.0
Every 3 years	7	15.2
Every 5–10 years	1	2.2
I do not know	6	13.0
If your healthcare provider recommended it, would you be screened…†		
Every 3 years with Pap smear only (Yes)	35	76.1
Every 5 years with Pap and HPV test (Yes)	26	56.5
Every 5 years with HPV test only (Yes)	16	34.8
What screening approach would you prefer if given the option by your healthcare provider?*		
Every 3 years with Pap smear only	13	28.3
Every 5 years with Pap and HPV	15	32.6
Every 5 years with HPV only	5	10.9
Do not know	13	28.3

Structured question worded as written

†*Structured question worded as written. The same question was asked for each of the three screening options. Response options for each included yes, no, or I do not know*

Table 2 Representative Quotes Across Qualitative Themes

Theme	Representative quotation(s)
Discomfort with and uncertainties about HPV testing	"I guess [HPV testing's] okay, but I mean, even if it comes out negative...I assume you could still have cancer. I mean, it seems to me that the best thing is just the Pap smear every three years…I do not think the HPV test would be a true indicator of whether you have cancer or not, but I could be wrong. I do not have enough information" (70 years old). "Just having the [Pap and HPV] tests done I think would just make me feel a little bit more… comfortable knowing that I'm getting tested for both. Well, even if it is [every] five years, but if I can get tested for both, it would just give me a more peace of mind" (23 years old). "I feel like because Pap smears [have] been the go-to…doctors have had more training [and] knowledge with the Pap smear. If they wanted to give something in addition to the Pap smear, that's fine. But not to have it, I do not know…If I'm going to the doctor's office and someone's talking about cervical cancer screening, I'm expecting a Pap smear…if someone provides the information, and says, 'well, it's not as thorough as it used to be' or 'the HPV testing is actually more accurate' then still, I would rather [have it] in addition to the Pap smear" (32 years old).
Provider communication and recommendation	"If [primary HPV testing is] recommended by national guidelines, I would listen to that and if my physician wanted to adhere to those guidelines, I would definitely [do so]. So much is about the relationship of trust between the physician and me. My trust in her researching the guidelines and affirming them herself, I think, would be all I needed" (67 years old). "Honestly, I do not know enough about [HPV testing], but I know about Paps. So, like I said, I would have to ask my gynecologist about what she recommends. And whatever she recommends, that's what I will do" (49 years old). "I remember knowing that they were going to do Pap smears, and exactly how frequently it was supposed to be, but I do not remember hearing anything about the HPV…But in general, if I trust my provider I would do what they recommended" (41 years old).
Limited awareness or distrust of extended screening intervals	"I am not sure [if I would be screened every 5 years]. I do not understand why there is such a huge timeline…I do not see the soundness of waiting 5 years to be screened for HPV...Things happen in 5 years. I do not think it is a safe medical practice" (69 years old). "I do not know enough about kind of the relative predictive power of HPV testing versus Pap smear only, but if it was significantly better for the HPV test, then I would be comfortable having only that, but probably still more often than the guidelines….although, I'll make sure to ask more questions at my next visit" (28 years old).

routine cervical cancer screening.[4, 5] Many women also expressed continued resistance to extended interval screening, driven in part from lack of knowledge of different screening options, the evidence behind screening recommendations, and the potential harms of overscreening. While our study is limited because it was conducted at a single healthcare system, it provides timely insight into perspectives on recent guidelines.

In summary, our findings suggest that to increase adoption of primary HPV testing for routine screening, development and implementation of patient-directed communication strategies that ensure awareness regarding effectiveness and evidence supporting HPV testing are needed. Furthermore, given the availability of multiple recommended screening strategies for women aged 30–65, incorporation of informed screening preferences into patient-provider discussions might further help to support patient-centered care and adoption of evidence-based practices.

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Compliance with Ethical Standards:

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Conflict of Interest: *The authors declare that they do not have a conflict of interest.*

Disclaimer: *The views expressed in this article do not necessarily reflect the views of the US Department of Veterans Affairs or the US Government.*

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