Original Articles

Giving patients information on abnormal cytology and human papillomavirus: Survey of health providers

M. Howard[1], *M.Sc.*; **J. Koteles**[1], *B.A.*; **A. Lytwyn**[2], *M.D., M.Sc.*, **L. Elit**[3], *M.D., M.Sc.*; **J. Kaczorowski**[1], *Ph.D.*; **J. Randazzo**[4], *R.N.*

Departments of [1]Family Medicine, [2]Pathology and Molecular Medicine, and [3]Obstetrics and Gynecology, McMaster University, [4]Hamilton Health Sciences, Colposcopy Clinic, Hamilton, Ontario (Canada)

Summary

Objectives: Knowledge of the link between HPV and cervical cancer is low among women. Health providers may be required to give information and counseling on HPV. This study surveyed health providers' comfort in counseling women about HPV.

Methods: Physicians, nurses and midwives attending a lecture on HPV completed a questionnaire (before the lecture) on their comfort level answering questions that a woman with an abnormal Pap may ask her health provider. Comfort level with knowledge was assessed on a 7-point Likert scale, with seven being very comfortable.

Results: Of the 96 attendees, 57.3% (55/96) were eligible and completed the questionnaire. Two-thirds of respondents were physicians (61.8%; 34/55), 38.2% were nurses or midwives (21/55). Telling a partner about HPV infection was the question about which the most respondents were very comfortable (69.1% answering 6 or 7) and chances of developing cervical cancer was the item about which the fewest respondents reported being very comfortable (36.4%).

Conclusions: Less than one-half to two-thirds of health providers self-reported being very comfortable answering HPV-related questions that a woman may ask. More information is needed regarding health providers' actual knowledge of HPV and women's wishes for information.

Key words: Human papillomavirus; Counseling; Health personnel; Survey.

Introduction

The causal link between carcinogenic types of human papillomavirus (HPV) and the development of cervical cancer has been well established, resulting in increased support for incorporating HPV testing in primary cervical cancer screening programs or as a triage tool for abnormal Papanicolaou (Pap) tests [1, 2]. Vaccines against HPV have been approved. Despite these advances, research has shown that the majority of women (67-87%) have never heard of HPV, are unaware of the causal link between HPV and cervical cancer or the sexual nature of transmission of HPV [3-5]. This large gap in knowledge combined with recent Canadian and American guidelines recommending use of HPV testing as a triaging tool [3, 4] will likely result in a greater demand for information regarding HPV and HPV testing directed at health providers [6]. Two recent studies in the U.S. in family physicians and pediatricians found that the number of correct responses to five HPV questions was moderate, ranging from 1.9 to 2.9 [7, 8].

Methods

To investigate how prepared health professionals are to meet the anticipated information demands of their female patients, a questionnaire was developed that included a clinical scenario of a female patient with an abnormal Pap result. The clinical scenario read *"You have a female patient aged 22 with a recent cytology result of LSIL, no history of previous abnormal Pap, and no history of genital warts. She has been in a monogamous relationship with her boyfriend of eight months and is not using condoms. Before this relationship she had one steady sexual partner about two years ago. She has been reading about abnormal Paps and has learned that HPV is the cause. She has many questions about HPV"*. Questions that she might ask her health provider regarding HPV were identified from the literature [4], as well as from a list of common questions reported by the clinic nurse and attending physician at the Hamilton Health Sciences colposcopy clinic. Clinician comfort with knowledge in providing answers to these questions was assessed using a seven-point Likert scale (1 not at all comfortable, 7 very comfortable). The questionnaire was distributed at a half-day HPV continuing medical education event organized by the Department of Obstetrics and Gynecology at McMaster University, Hamilton, Canada in May 2005. Administrative staff at the registration desk distributed the questionnaires and consent was implied if attendees completed it. The questionnaires were completed and returned anonymously to a box, prior to the start of the session. The questionnaire specified that only individuals who see female patients should complete it. The Hamilton Health Sciences research ethics board approved the study.

Results

Of the 96 attendees, 59.4% (57/96) respondents who saw female patients completed the questionnaire. The majority of the respondents were physicians (59.6%; 34/57), 31.6% were nurses (18/57), 5.3% were midwives (3/57), one respondent (1.8%) did not specify a profession and one (1.8%) was a non-health professional. Within the physician group, their specialties were divided between family medicine (44.1%; 15/34), obstetrics and gynecology (35.3%; 12/34), and not specified (17.6%;

Revised manuscript accepted for publication June 29, 2006

6/34). The two respondents for whom a profession could not be determined were excluded from analyses. The majority of respondents (90.9%; 50/55) reported that they discussed the results of Pap smears with their patients, and of those, 87.2% (41/47) believed they had time in their practice to discuss HPV with their patients.

The percentage of health providers that were comfortable (very good comfort level 6-7) with their knowledge in answering HPV questions ranged from 22.2% to 100.0% (Table 1). Comfort was generally higher among physicians than midwives and nurses. Overall the highest comfort level was reported for the questions about condom prevention, telling a partner about having HPV, and development of genital warts. Respondents were least comfortable with questions about the risk of developing cervical cancer with an HPV infection, how to be tested for HPV, and the persistence of HPV infection (36.4%, 49.1% and 49.1% very good, respectively).

Discussion

This study found that fewer than half to two-thirds of health professionals who provide gynecologic care to female patients feel very comfortable with their knowledge in answering HPV questions. Approximately one-third of physicians in a recent survey in Mexico felt that giving women information about the link between HPV and cervical cancer would cause anxiety, and that women would not be able to understand the information [9].

A positive HPV test may result in anxiety about sexual relations, even in women with normal cytology [10]. Psychosocial morbidity has also been reported with other sexually transmitted infections, including anxiety, anger, depression, distress and disturbances in sexual functioning in individuals with genital herpes [11]. Nevertheless, information on the link between HPV and abnormal Pap smear results and cervical cancer has been reported in the Western lay press and is readily available on the Internet [3]. Women are able to access this information, and will likely want to discuss their Pap results with their health care provider. Even individuals who are not inclined to research their health care questions may ask their providers about the cause of an abnormal Pap test.

Providing definitive answers for women may be challenging given the frequent remission of HPV, low overall risk of developing cervical cancer and uncertainty of some aspects of the natural history and transmission. The items for which fewer than 50% of respondents were very comfortable included how to be tested for HPV, chances of developing cervical cancer, and persistence of HPV infection. It has been reported that persistence and long-term effects are the very issues about which women are concerned when they learn about HPV [3]. Information on these questions is relatively recent and not yet complete [12], and this may account for providers' lack of comfort in these areas. The relatively low comfort level in discussing how to be tested for HPV may reflect clinicians' concern about inappropriate use of HPV testing and patient anxiety, or the fact that HPV testing is not yet an insured service in the province of Ontario.

These results are limited by the small sample size and the select population of respondents who attended an educational event. In addition, the questionnaire measured only self-perceived comfort with knowledge rather than actual knowledge or counseling skills. However, some correlation between knowledge level and comfort would be expected.

In our experience, many women learn about the association between HPV and abnormal cytology for the first time when they arrive at the colposcopy clinic, and they have many questions. While it is clear that the majority of women are unaware of the link between HPV and cervical cancer, more knowledge is needed about women's wishes for information. Physicians who have better knowledge of HPV have been shown to have higher intentions of vaccinating young people [7]. The ability of providers to appropriately answer women's questions and relieve their psychological distress will be very important in a cervical cancer prevention program that involves HPV testing or vaccination in the future.

Table 1. — *Comfort of health providers with their knowledge in answering patients' questions regarding HPV.*

	Proportion of responses on the seven-point scale where '1' is poor and '7' is very good (%, n)					
	Comfort with knowledge score 1-3		Comfort with knowledge score 4-5		Comfort with knowledge score 6-7	
	Physicians	Nurses/midwives	Physicians	Nurses/midwives	Physicians	Nurses/midwives
How did I get HPV?	0	19.0 (4/21)	32.4 (11/34)	38.1 (8/21)	67.6 (23/34)	42.9 (9/21)
Is sex the only way to get HPV?	5.9 (2/34)	15.0 (3/20)	32.4 (11/34)	30.0 (6/20)	61.8 (21/34)	55.0 (11/20)
How can I prevent giving HPV to someone?	3.0 (1/33)	10.0 (2/20)	36.4 (12/33)	30.0 (6/20)	60.6 (20/33)	60.0 (12/20)
Can condoms prevent HPV?	3.0 (1/33)	10.0 (2/20)	27.3 (9/33)	20.0 (4/20)	69.7 (23/33)	70.0 (14/20)
How can I get tested for HPV?	18.2 (6/33)	25.0 (5/20)	27.3 (9/33)	30.0 (6/20)	54.5 (18/33)	45.0 (9/20)
What are my chances of getting cervical cancer?	8.8 (3/34)	23.8 (5/21)	47.1 (16/34)	52.4 (11/21)	44.1 (15/34)	23.8 (5/21)
Will HPV affect a pregnancy or a baby?	8.8 (3/34)	33.3 (7/21)	23.5 (8/34)	33.3 (7/21)	67.6 (23/34)	33.3 (7/21)
Is there treatment for HPV?	9.1 (3/33)	23.8 (5/21)	33.3 (11/33)	19.0 (4/21)	57.6 (19/33)	57.1 (12/21)
Is there a vaccine for HPV?	20.6 (7/34)	19.0 (4/21)	29.4 (10/34)	38.1 (8/21)	50.0 (17/34)	42.9 (9/21)
Does HVP infection go away?	8.8 (3/34)	14.3 (3/21)	38.2 (13/34)	42.9 (9/21)	52.9 (18/34)	42.9 (9/21)
How long will I have HPV?	15.2 (5/33)	23.8 (5/21)	33.3 (11/33)	28.6 (6/21)	51.5 (17/33)	47.6 (10/21)
Should I tell my partner I have HPV?	5.9 (2/34)	19.0 (4/21)	29.4 (10/34)	9.5 (2/21)	64.7 (22/34)	71.4 (15/21)
Does this mean I will get genital warts?	12.5 (4/32)	23.8 (5/21)	21.9 (7/32)	14.3 (3/21)	65.6 (21/32)	61.9 (13/21)

Acknowledgement

The Department of Obstetrics and Gynecology provided in-kind resources for survey printing and administration.

References

[1] Clifford G.M., Smith J.S., Plummer M., Munoz N., Franceschi S.: "Human papillomavirus types in invasive cervical cancer worldwide: a meta-analysis". *Br. J. Cancer,* 2003, *88*, 63.

[2] Wright T.C. Jr, Cox J.T., Massad L.S., Twiggs L.B., Wilkinson E.J. and the ASCCP-Sponsored Consensus Conference. "2001 Consensus Guidelines for the management of women with cervical cytological abnormalities". *J. Am. Med. Assoc.,* 2002, *287,* 2120.

[3] Anhang R., Goodan A., Goldie S.J.: "HPV communication: review of existing research and recommendations for patient education". *CA Cancer J. Clin.,* 2004, *54,* 248.

[4] Stuart G., Taylor G., Bancej C.M., Beaulac J., Colgan T., Franco E.L.: "Report of the 2003 pan-Canadian forum on cervical cancer prevention and control". *J. Obstet. Gynaecol. Can.,* 2004, *26,* 1004.

[5] Waller J., McCaffery K., Nazroo J., Wardle J.: "Making sense of information about HPV in cervical screening: a qualitative study". *Br. J. Cancer,* 2005, *92*, 265.

[6] Gilbert L.K., Alexander L., Grosshans J.F., Jolley L.: "Answering frequently asked questions about HPV". *Sex Transm. Dis.,* 2003, *30,* 193.

[7] Kahn J.A., Zimet G.D., Bernstein D.I., Riedesel J.M., Lan D., Huang B., Rosenthal S.L.: "Pediatricians' intention to administer human papillomavirus vaccine: the role of practice characteristics, knowledge and attitudes". *J. Adolesc. Health*, 2005, *37*, 502.

[8] Riedesel J.M., Rosenthal S.L., Zimet G.D., Bernstein D.I., Huang B., Lan D., Kahn J.: "Attitudes about human papillomavirus vaccine among family physicians". *J. Pediatr. Adolesc. Gynecol.,* 2005, *18*, 391.

[9] Aldrich T., Becker D., Garcia S.G., Lara D.: "Mexican physicians' knowledge and attitudes about the human papillomavirus and cervical cancer: a national survey". *Sex. Transm. Infect.*, 2005, *81,* 135.

[10] McCaffrey K., Waller J., Forrest S., Cadman L., Szarewski A., Wardle J.: "Testing positive for human papillomavirus in routine cervical screening: examination of psychosocial impact". *Br. J. Obstet. Gynecol.*, 2004, *111*, 1437.

[11] Green J.: "Psychosocial issues in genital herpes management". *Herpes,* 2004, *11*, 60.

[12] Schiffman M., Kruger Kjaer S.: "Chapter 2: Natural history of anogenital human papillomavirus infection and neoplasia". *J. Natl. Cancer Inst. Monogr.*, 2003, *31,* 14.

Address reprint requests to:
M. HOWARD, M.Sc.
Department of Family Medicine
McMaster University
75 Frid St.
Hamilton, ON L8P 4M3
Ontario (Canada)