Performance Measures Related to Colposcopy for Canadian Cervical Cancer Screening Programs: Identifying Areas for Improvement

Kathleen M. Decker, PhD,[1,2] C. Meg McLachlin, MD, FRCPC,[3] Robert Lotocki, MD, FRCPC[2,4]; and the Pan-Canadian Cervical Cancer Screening Network Monitoring Program Performance Working Group

[1]Department of Community Health Sciences, University of Manitoba, Winnipeg MB

[2]Screening Programs, CancerCare Manitoba, Winnipeg MB

[3]London Health Sciences Centre, London ON

[4]Division of Gynecologic Oncology, University of Manitoba, Winnipeg MB

Abstract

Objective: To describe performance measures related to colposcopic examinations in Canadian cervical cancer screening programs; specifically, time to colposcopy, histological investigation rate, and agreement between cytology and histology.

Methods: As part of a national report on the performance of cervical cancer screening, aggregate provincial cervical cancer screening data provided by provinces to the Pan-Canadian Cervical Screening Network were used to evaluate colposcopy program performance measures for women 20 to 69 years of age who had a Pap test in 2009 and 2010.

Results: A total of 37 523 women had a high-grade or more severe Pap test result. The proportion of women who had a colposcopy ≤ 90 days after their Pap test ranged from 30.9% to 51.5%. Fewer women 60 to 69 years of age had a colposcopy than women in younger age groups. The proportion of women who had a high-grade or more severe Pap test result and colposcopy who had a biopsy within 12 months ranged from 82.1% to 96.5%. The proportion of biopsy results that agreed with the Pap test result ranged from 59.5% to 82.1%.

Conclusion: The time from having a high-grade Pap test result to undergoing colposcopy must be reduced to lower the risk of adverse outcomes and the stress associated with delayed follow-up. The agreement between screening cytology and histology meets the national target of ≥ 65%. Although six of 13 provinces and territories provided data for colposcopy-related performance measures, more information is needed to assess colposcopy services accurately at the national level.

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Résumé

Objectif : Décrire les mesures de rendement associées aux examens colposcopiques au sein des programmes canadiens de dépistage du cancer du col utérin (plus particulièrement : le délai avant le recours à la colposcopie, le taux d'exploration histologique et le taux de concordance des résultats cytologiques et histologiques).

Méthodes : Dans le cadre d'un rapport national sur le rendement du dépistage du cancer du col utérin, les données agrégées provinciales sur ce dépistage qu'ont fournies les provinces à l'Initiative pancanadienne sur le dépistage du cancer du col de l'utérus ont été utilisées pour évaluer les mesures du rendement des programmes de colposcopie chez les femmes de 20 à 69 ans qui avaient subi un test de Pap en 2009 et en 2010.

Résultats : En tout, 37 523 femmes avaient obtenu des résultats de test de Pap indiquant la présence d'une anomalie de haut grade histologique ou d'une anomalie plus grave. La proportion des femmes qui ont subi une colposcopie ≤ 90 jours à la suite de leur test de Pap se situait entre 30,9 % et 51,5 %. Moins de femmes du groupe d'âge des 60 à 69 ans ont subi une colposcopie, par comparaison avec les femmes des groupes d'âge plus jeunes. La proportion des femmes qui avaient obtenu des résultats de test de Pap indiquant la présence d'une anomalie de haut grade histologique ou d'une anomalie plus grave, qui ont subi une colposcopie et qui ont subi une biopsie dans un délai de 12 mois se situait entre 82,1 % et 96,5 %. La proportion des résultats de biopsie qui concordaient avec les résultats de test de Pap se situait entre 59,5 % et 82,1 %.

Conclusion : Le délai entre l'obtention de résultats de test de Pap indiquant la présence d'une anomalie de haut grade histologique et la tenue d'une colposcopie se doit d'être réduit pour que l'on puisse abaisser le risque d'issues indésirables et le stress qui sont associés au report du suivi. Le taux de concordance des résultats cytologiques et histologiques atteint la cible nationale de ≥ 65 %. Bien que six des 13 provinces et territoires aient fourni des données sur les mesures de rendement associées à la colposcopie, plus de renseignements s'avèrent requis pour que l'on puisse évaluer avec précision les services de colposcopie au niveau national.

INTRODUCTION

Screening using the Pap test has led to significant reductions in cervical cancer incidence and mortality in Canada.[1,2] Despite this success, over 1450 Canadian women are found to have invasive cervical cancer each year.[3] Several studies have found that women with a diagnosis of invasive cervical cancer had not been screened in the five years before diagnosis, had been screened but the Pap test had failed to detect their cancer, or they had not been followed appropriately after an abnormal Pap test result.[4–7] Therefore, the effectiveness of cervical cancer screening can be improved by ensuring that the follow-up and clinical management of cytological abnormalities occur in a timely and accurate manner. Although guidelines vary slightly, a Pap test showing low-grade abnormalities is usually repeated after six months. If high-grade abnormalities are identified, the woman is referred for colposcopy, during which a detailed examination of the cervix is performed. Therefore, monitoring measures of colposcopy effectiveness is a key part of ensuring effective cervical cancer prevention.

A colposcopy is a visual examination of the lower genital tract and cervix using magnification and simple staining solutions such as acetic acid and Lugol's solution. Colposcopy is sometimes accompanied by a biopsy to confirm a cervical abnormality.[8] In Canada, colposcopy is performed predominantly by gynaecologists in hospital clinics and private offices.[8] Although colposcopy recommendations vary across provinces and territories, current guidelines prepared by the Society of Canadian Colposcopists and approved by the Society of Obstetricians and Gynaecologists of Canada recommend that women with a high-grade squamous intraepithelial lesion be seen in a colposcopy clinic within four weeks of referral and women with atypical squamous cells, high-grade or atypical glandular cells be seen within six weeks.[8] The Wait Time Alliance suggests that women with an HSIL Pap test result be seen by a colposcopist within three weeks and women with an ASC-H or AGC Pap test result be seen within six to eight weeks.[9]

ABBREVIATIONS

AGC	atypical glandular cells
ASC-H	atypical squamous cells, high-grade
CIN	cervical intraepithelial neoplasia
HPV	human papillomavirus
HSIL	high-grade squamous intraepithelial lesion
Pap test	Papanicolaou test
SCC	Society of Canadian Colposcopists

The SCC and SOGC also recommend that all visible lesions be biopsied and that all women referred because of an HSIL result, even in the absence of an identifiable lesion at colposcopy, should have endocervical curettage and directed biopsy.[8] Recently, participants at a national target-setting workshop in Canada recommended that ≥ 65% of women with Pap test results of HSIL or more severe should have a corresponding histological result of pre-cancer or invasive cancer, ensuring a high positive predictive value; they also concluded that there is a need for consistent histological terminology across the country.[10]

In Canada, cervical cancer screening policy is organized at the provincial and territorial level. Historically, the delivery of cervical cancer screening has been largely opportunistic. To support better organization, in 2010 the Pan-Canadian Cervical Screening Network, a strategic initiative of the Canadian Partnership Against Cancer, formed a working group to collaborate with provincial and territorial screening programs to measure key aspects of cervical cancer screening. The provinces and territories collaborated to refine, submit, and analyze screening data for 12 performance measures previously developed by the Screening Performance Indicators Working Group and the Public Health Agency of Canada.[11] To date, this commitment has resulted in two reports on the performance of cervical cancer screening in Canada.[6,7]

Our objective was to examine outcomes using three performance measures related to colposcopy in women 20 to 69 years of age who were screened in 2009 and 2010: these performance measures were time to colposcopy, histological investigation rate, and agreement between cytology and histology. These key indicators reflect system capacity and the effectiveness of cervical cancer screening follow-up protocols and outcomes.

METHODS

Aggregate, non-identifiable cervical cancer screening data for women 20 to 69 years of age were submitted to the Canadian Partnership Against Cancer from screening programs in the following provinces: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador.[6] The screening programs differ with respect to their level of organization (partially organized to completely organized), screening guidelines (screening start date, end date, and interval), and data availability (cytology, histology, and colposcopy). The 2009 to 2011 Program Performance Results Report provides detailed information about each screening program.[6]