ABSTRACT

Purpose: To support a community effort to establish a health service in a Nova Scotia high school, adolescents' sexual behaviours and use of physicians for sexual health services were assessed.

Methods: A self-completion survey asked students about sexual behaviours, use of physician services and barriers to use of those services.

Results: Only 8.7% of male and 37.9% of female students with family physicians had discussed with the physician whether they were sexually experienced ($p < 0.0001$). More females had discussed sexual activity when the physician was female than when the physician was male (43.7% vs. 35.1%; $p < 0.05$). More sexually experienced females who had not discussed this behaviour with their physicians identified specific issues as barriers to discussion.

Conclusions: Female physicians discuss sexual activity more with their adolescent female patients than do male physicians. The results support the need to provide health services in addition to those of physicians to meet the sexual health needs of adolescents.

ABRÉGÉ

Objet : À l'appui d'un projet communautaire d'établissement d'un service de santé dans une école secondaire de la Nouvelle-Écosse, nous avons évalué les comportements sexuels d'adolescents et leur recours aux médecins pour obtenir des services de santé-sexualité.

Méthode : Dans un questionnaire à remplir soi-même, nous avons interrogé les élèves sur leurs comportements sexuels, leur recours aux services d'un médecin et les obstacles à l'utilisation de tels services.

Résultats : Seuls 8,7 % des garçons et 37,9 % des filles qui avaient un médecin de famille avaient discuté avec lui ou elle de leur activité sexuelle ($p < 0,0001$). Les filles étaient plus nombreuses à l'avoir fait lorsque leur médecin était une femme plutôt qu'un homme (43,7 % contre 35,1 %; $p < 0,05$). Les filles actives sur le plan sexuel qui n'avaient pas parlé de leur comportement à leur médecin ont cité des obstacles précis à cet égard.

Conclusions : Les femmes médecins discutent davantage d'activité sexuelle avec leurs patientes adolescentes que ne le font leurs collègues masculins. Ces résultats confirment le besoin de fournir des services de santé complémentaires à ceux des médecins pour répondre aux besoins des adolescents en matière de santé-sexualité.

Nova Scotia High School Students' Interactions with Physicians for Sexual Health Information and Services

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Many Canadian¹ and Nova Scotian²⁻⁴ adolescents are sexually active, often times with negative consequences. The pregnancy rate for Canadian women aged 15-19 was 48.8/1000 in 1994,⁵ while about 4% of Nova Scotian adolescents become pregnant each year.⁶ Adolescent pregnancy is most often unintended and is associated with significant negative sequelae.⁷⁻⁹ Sexually transmitted infections (STIs) are associated with pelvic inflammatory disease and its complications.^{10,11} Genital chlamydia is the most commonly reported STI in Canada, with the highest rates reported in those aged 15-19.¹²

Though effective relationships between physicians and young people are crucial to prevention of these negative outcomes,¹³⁻¹⁶ sexuality education for physicians is often inadequate.¹⁷⁻¹⁹ Physicians often do not take sexual histories,²⁰⁻²³ and Nova Scotia physicians report not often asking about sexual orientation and practices.²⁴ The American Medical Association's *Guidelines for Adolescent Preventive Services* recommends that adolescents be asked annually about sexual activity, use of condoms and contraception, sexual orientation, and number of partners.²⁵ A recent review in the U.S. determined that these health behaviours often go unaddressed.²⁶ Little has been written about adolescents' views of physicians as resources for sexual health education and services. What exists indicates that communication with physicians about sexual health is difficult for young people.^{27,28}

The research described here took place in the context of providing supportive information for a community effort to establish a dedicated health service for students attending a high school of approximately 1,700 students in a community in Nova Scotia. This community and its surrounding area are comparable in income and educational levels to others in Nova Scotia,²⁹ and rely on the usual health services available to such communities, with no special emphasis on youth health. Descriptive analysis of adolescents' use of physicians for sexual health services was felt to be crucial to advancing the project.

METHODS

Students attending school on November 27, 1998 were asked to complete self-administered questionnaires. The questionnaire was developed by research team members, reviewed by content experts at the provincial and national levels and pre-tested at another high school.

Students were asked about their knowledge of sexual health, their sources of sexual health information and services and their perceptions of barriers to access to such information and services. The survey also asked about whether they were sexually experienced (i.e., had at least one experience of vaginal intercourse), their numbers of partners, and their use of condoms and oral contraception. Inquiry was not made about other methods of birth control, since it was felt that they were rarely used by Canadian adolescents.³⁰ Students were asked to indicate whether they had a family physician, and if they had talked with their physician about sexual activity. Where students were sexually active, and had discussed this with their physician, inquiry was made as to whether they had talked with their physician about related

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TABLE I
Proportion (%) of Students Engaging in Specific Reproductive Behaviours, by Age Group

	Males				Females			
	Grade 10 n=241	Grade 11 n=229	Grade 12 n=186	p-value	Grade 10 n=233	Grade 11 n=229	Grade 12 n=185	p-value
Have had vaginal intercourse at least once	41.5	51.1	59.7	p<0.01	40.3	54.1	60.5	<0.0001
Used condom at last vaginal intercourse	71.0	64.2	48.9	p<0.01	53.2	51.5	41.1	NS
Have had anal intercourse at least once	8.3	7.9	7.5	NS	7.7	10.0	14.6	NS
Used condom at last anal intercourse	29.5	37.6	21.5	NS	33.5	18.3	27.0	NS
Had > one sexual partner in past year	55.6	45.0	29.0	p<0.01	44.6	37.1	33.0	NS
Used OCP at last intercourse					32.2	41.0	57.3	<0.01
Neither condom nor OCP last intercourse					28.3	24.8	20.5	NS

TABLE II
Interactions of Students with Family Physicians in Past Year, by Gender and Sexual Activity

	Males			Females		
	Sexually Active (n=321)	Not Sexually Active (n=335)	p-value	Sexually Active (n=329)	Not Sexually Active (n=318)	p-value
Have a regular family physician (%)	81.3	86.9	NS	94.5	91.2	NS
Gender of family physician (%)			NS			NS
Male	84.3	84.2		66.2	68.3	
Female	15.7	15.8		33.8	31.7	
Visited family physician last year (%)	86.2	72.8	<0.001	90.7	79.3	<0.0001
Mean number of visits to family physician last year (s.d.)	4.1 (4.4)	4.1 (8.3)	NS	6.4 (9.9)	3.8 (3.8)	<0.0001
Ever discussed whether sexually active with family physician (%)	15.7	2.4	<0.0001	56.3	18.3	<0.0001

sexual health topics. To assess barriers to physician services, students who were sexually active and had not discussed this with their family physician were asked to indicate agreement or disagreement with statements about whether specific barriers interfered with their using physicians as resources.

Data were entered using Epi-Info Version 6.04b, and analyzed using SPSS Version 7.5 for Windows. Due to the very high response rate, results are presented unweighted for non-response by grade and gender.

Students older than age 19 (0.08% of respondents) were eliminated from the analysis. Tests of means were carried out using Student's t-test. Chi-square tests were used to test differences in proportions, using Fisher's Exact Test where expected cell sizes were smaller than 5.

RESULTS

Overall response rate to student survey

Of 1,648 students, 3 were refused parental permission to participate. Of these 1,645 potential participants, 1,564 were registered for class when the survey was administered, and 1,313 (84%) completed it. Students ranged in age from 14 to 26.

When 10 students over the age of 19 were excluded, there remained 656 (50.3%) males and 647 (49.7%) females. Four hundred and seventy-four (36.4%) were from grade 10, 458 (35.1%) from grade 11, and 371 (28.5%) from grade 12. The mean age of males was 16.4 (sd 1.1); that of females was 16.3 (sd 1.0).

Sexual experience and protective behaviours (Table I)

About 40% of students in Grade 10, 50% of students in Grade 11 and 60% of students in Grade 12 were sexually experienced. Condom use declined significantly with increased grade level in males and oral contraceptive use increased in females with grade. Twenty-five percent of females in all grades reported not using a condom or oral contraception at last intercourse.

Use of physicians' services

Of students overall (i.e., all students, whether sexually active or not), most indicated that they had a family physician (84.1% of males; 92.9% of females, p<0.0001). Over the past year, most students with a physician had made a visit, female students doing so significantly more than males [512 of 601 (85.2%) vs. 437 of 552 (79.2%); p<0.01]. Male and female

students overall had significant difference in the gender of their physician, with 15.8% of males having a female physician compared with 32.8% of females (p<0.0001).

Sexually active males and females were significantly more likely than their non sexually active counterparts to have visited their physician in the past year, and the mean number of visits was higher for sexually active than for non sexually active females (Table II). Sexually active students of both genders were also more likely to have discussed with their physician whether they were sexually active, though at 56.3%, only sexually active females had discussed sexual activity in fairly high proportions.

Of students with a family physician, only 48 of 552 (8.7%) of male students and 228 of 601 (37.9%) of female students had discussed with their physician whether they were sexually active (p<0.0001). One hundred and eighty-three of 869 (21.0%) of those with male physicians had had such discussion, compared with 93 of 284 (32.7%) of those with female physicians (p<0.0001). Forty-one of 465 male students (8.8%) with male physicians had had such discussion, compared with 7 of 87 (8.0%) of those with female physicians.

TABLE III

Proportion of Sexually Active Students Who Had Discussed this Behaviour with their Family Physician, Who Also Discussed Other Sexual Risk Behaviours

	Males (n=41)	Females (n=175)	p-value
Prevention of HIV/AIDS (%)	56.1	61.7	NS
Prevention of other STDs (%)	75.6	69.7	NS
Use of condoms (%)	80.5	66.3	NS
Number of sexual partners (%)	48.3	42.3	NS
Sexual orientation (%)	34.1	14.3	<0.01
Use of birth control pills (females only) (%)		93.1	

TABLE IV

Proportions of Sexually Active Students Not Having Discussed their Sexual Activity with their Family Physician, Indicating Reasons for Being Prevented from Talking About Sexual Issues with a Physician

	Males (n=220)	Females (n=136)	p-value
Adolescent's embarrassment to talk to physician about sexual matters (%)	37.4	55.9	<0.0001
Physician might tell parents or guardians (%)	23.2	53.9	<0.0001
Physician lacks respect for young people who are having sex (%)	21.4	40.9	<0.0001

For female students, 142 of 404 (35.1%) of those with male physicians, vs. 86 of 197 (43.7%) of those with female physicians had had such discussion ($p < 0.05$).

To determine if protective behaviours were associated with physician gender, we determined use of oral contraception and condoms at last intercourse by physician gender. For females, there was no difference in use of oral contraception at last intercourse whether the physician was male [94 of 206 (45.6%)] or female [49 of 105 (46.7%)]. There was also no difference in condom use at last intercourse for females (47.2% vs. 51.5%). One hundred and forty-three of 220 (65%) of males used a condom at last intercourse where the physician was male and 24 of 41 (58.5%) where the physician was female, a non-significant difference.

Students who were sexually active *and* who had discussed their sexual activity with their physician were asked about discussion with that physician of other sexual behaviours (Table III). With the exception of sexual orientation, males and females were about equally likely to have discussed these behaviours; sexual orientation was the behaviour least discussed.

There were too few sexually active males with female physicians to allow examination of whether physicians of different genders asked differing proportions of sexually active male adolescents questions about

their sexual behaviours. However, it was possible to examine this for female students. None of these sexual behaviours was discussed significantly more often by females with physicians of either gender [data not shown].

To understand barriers that kept students who were sexually active and who had not spoken with their family physician about sexual concerns from doing so, we asked students to respond "yes" or "no" to three possible reasons for this lack of discussion. Proportions of students answering "yes" to each statement are presented in Table IV. Females were significantly more likely to have responded affirmatively to all three statements, which concerned adolescent's embarrassment to talk to physician about sexual matters, concerns that the physician might tell parents or guardians, and lack of respect for young people who are having sex.

DISCUSSION

Students at this high school reported being as sexually active as others in Canada¹ and in Nova Scotia.^{2,4} Many of those who were sexually active, especially males, had not discussed this with their family physicians. However, those who had discussed sexual activity quite often had also discussed related sexual behaviours with their physician. The low num-

bers of students having discussed sexual orientation seen here were also observed in high school students in California,³¹ and reflect what Nova Scotia physicians say about their own sexual history taking.²⁴

Adolescents may differ by gender in their preferences for physician gender,^{32,33} and better prevention in the area of adolescent sexuality may be carried out by female physicians.^{34,35} Our results showed that students with male physicians discussed sexual activity less than those with female physicians. While we found no difference in physician gender for male students' discussion of sexual activity, for female students, a better job appeared to have been done by female physicians. There was also no difference in physician gender for discussing other related sexual behaviours with female students once sexual activity had been discussed (male students with female physicians being too few to analyze in this way). Importantly, students' use of oral contraception and condoms at last intercourse did not differ with the gender of their physician.

Significant numbers of sexually active students of both genders who had not discussed this with their family physician indicated that fear of physicians' telling their parents, embarrassment, and a feeling of lack of respect by physicians were factors that kept them from talking to physicians about sexuality. These findings are similar to those seen with high school students elsewhere in Nova Scotia,³⁶ indicating that such barriers are not limited to this community.

Perceived lack of confidentiality is considered a particularly important barrier to adolescents' use of health care services.^{37,38} Where adolescents receive reassurances about the confidentiality of their visits, they are more willing to seek care for sexual health.³⁹ Embarrassment was seen as a barrier to consultations with general practitioners for 63% of females and 46% of males in a study in England in 1994,⁴⁰ and has been seen to be a factor related to negative experiences during first Pap testing.^{41,42} Embarrassment related to Pap testing may be a significant barrier to sexual health services for adolescent women in Nova Scotia.²⁸

The most significant finding of this study – that very few sexually active young

men and just over half of sexually active young women have discussed sexual health with their physician – is cause for concern. Physicians, and other health professionals dealing with adolescents, must realize that the subject of sexual health should be introduced in a timely fashion that broaches the subject gradually, understanding that the adolescent will almost certainly become sexually active sooner or later. This approach is important because, for example, adolescents wait on average 17 months after initiating sexual activity before attempting to access contraception.⁴³ Adolescents are also more compliant with advice about sexual health issues such as contraception when the time is taken to explain risks and benefits clearly to them.⁴⁴

These results are compatible with a recent US study that found that questions about sexual health were infrequently asked of adolescents by private practice family physicians. In that study, specialized teen clinics were seen to do a more comprehensive job of assessing teen sexual behaviours and service needs.²⁶ Teen health clinics, whether located in or near schools, have been demonstrated to have the potential to positively influence contraceptive behaviours⁴⁵ and possibly pregnancy rates.⁴⁶ Recent evidence from Nova Scotia supports the feasibility of approaches that incorporate specialized teen clinics for sexuality in Nova Scotia,³⁶ and the potential for this type of adolescent health service should be further explored.

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