



PRO-TEEN

Preview:

Acknowledgements

Teen Pregnancies
Skyrocketing, Ob/gyns seek

Plan B

Hepatitis B Virus Infection

Griffin Center

TeenNet

Meeting Nutritional needs
during adolescence



<http://www.acsa-caah.ca>

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Publisher : CAAH

Editor in Chief
Dr Jean-Yves Frappier

Associate Editors

André Malo
Philippe Nechkov
Julia Sheel

Illustrator:

John Duong

CAAH

Section médecine de l'adolescence
Hôpital Ste-Justine
3175 Côte Ste-Catherine
Montreal QC H3T 1C5

Tel : (514) 345-9959
Fax : (514) 345-4778

E-mail: acsacaah@microtec.net
Web: www.acsa-caah.ca

Executive Committee

President
Dr Jean-Yves Frappier

Vice-President
Dr Eudice Goldberg

Secretary-Treasurer
Dr Marc Girard

Directors Delegate
Dr Roger Tonkin

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Mary Paone, RN, MSN, Vancouver
Dr Roger Tonkin, Vancouver

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News from the Association

Acknowledgments

The onset of summer is marked by a tradition. It is a time when we wish to underline the efforts of all those who collaborated in the Association's activities and in the production of PRO-TEEN.

We would like to thank André Malo for the important work he does as the coordinator of our main activities: he supervises the membership data bank, PRO-TEEN and other publications; sees to the logistics for conferences; manages and organizes secretarial and computer work; and coordinates the work of collaborators. Mr Malo also coordinates the work under contract for the Canadian Health Network. For the third year now, CAAH is administering all his meetings without external agency's support.

Philippe Nechkov has done the layout for every issue of PRO-TEEN. The content of PRO-TEEN this year has benefited from the quality efforts of Julia Sheel who translated some articles. We are grateful to all members of the PRO-TEEN team for their work and dedication. We also wish to thank everyone who sent us articles, publication notices or news from their associations, thereby contributing to the quality and success of the final product. *The number of documents received for publication is interestingly increasing.*

Within the Association, Philippe Nechkov managed the membership data bank and registered new members. As for our web site, the content the design were much improved due to the work of John Duong. The work done for the Canadian Health Network, ie, the franco-phone Québec mapping survey and the youth affiliate partnership has been coordinated by

André Malo with John Duong as the youth affiliate assistant and Djordje Janjic and Éric Villiard as assistant for the mapping survey. David Blasco has offered support to all our team on different project.

We would like to note the gracious contribution of Sainte-Justine Hospital, which backs our activities.

We would also like to highlight the outstanding work of the committees who organized CAAH meetings and conferences.

For the 6th National Scientific Meeting of CAAH held in Toronto, November 5th 1999, on the theme of « Adolescent Mental Health: strategies», we acknowledge the work of Dr Katherine Leonard and her team at the North York General Hospital. The meeting was attended by 105 participants

For the 7th National Scientific Meeting of CAAH held in Montreal, May 4-5 2000, with a program in French and in English on the theme "Adolescent Health: Update for the 3rd Millennium", we acknowledge the work of Dr Jean-Yves Frappier and Dr. Franziska Baltzer and their team. The meeting was attended by 410 participants.

In conclusion, I am grateful to all members who promote our activities and support us. Some of you have been members of CAAH for many years now and it is encouraging to see your names coming back as a sign of your appreciation of our work.

Have a nice summer,

Jean-Yves Frappier, President of CAAH

CHN: Canadian Health Network Information you can trust



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Funded by and in partnership with Health Canada
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*Des informations santé
digne de confiance*

Health Santé
Canada Canada

The CHN tree, with its distinctive network of maple leaves, stands for a living, ever-developing and evolving entity, symbolic of the Canadian Health Network itself. The tree (representing the organization) is nurtured through both input from the public and through the participation of professionals and partnerships, which help it grow and flourish. It is also symbolic of life and vitality, and conveys imagery of health. Connect to health information you can trust.



CAAH, affiliate partner of the Canadian Health Network.

Our role within this growing network is to review health related documents already posted on their website in youth section. It is also our responsibility to add, develop answers for the Frequently Asked Questions.

Here are the topics you will find in youth section on CHN website. Under each topic you can find from 10 to 40 articles.

- Active living
- AIDS/HIV
- Cancer
- Determinants of Health
- Environmental Health
- Health Promotion
- Health System
- Healthy Eating
- Injury Prevention
- Mental Health
- Relationships
- Sexuality/Reproductive Health
- Substance Use/Addictions
- Tobacco
- Violence
- Workplace Health

You can also have access to specific documents by browsing through A-Z index, indicating appropriate terms. For example: youth, contraception, Quebec for all documents from Quebec on this topic for youth. There is also possibility for everyone to send questions or comments

Since the CHN website was launched, the 25th of November, 1226 visitors had requested information. Half of them had Health-info requests. They have received as many as 219 partnership queries. Many visitors gave a positive feedback about the website.

CAAH support gun law at Supreme Court

The Canadian Paediatric Society (CPS) and the Canadian Association of Adolescent Health (CAAH) were among 23 interveners at the Supreme Court of Canada supporting the federal gun control legislation.

In February, the Supreme Court heard a constitutional reference to the federal Firearms Act, which includes provisions for the licensing and registration of firearms. The province of Alberta challenged that the law infringed on provincial jurisdiction.

"We must be vigilant in limiting the availability of firearms to Canadian children and adolescents," said Katherine Leonard, spokesperson for CPS and CAAH. "The tightened controls in gun owner licensing and firearm registration will help limit access to guns, and thus reduce child and youth mortality from firearms."

Deaths from firearms--including homicides, suicides, and accidental deaths--are a significant and preventable cause of injury and death in Canadian youth. Firearms account for more deaths among teens aged 15-19 than from fires, falling, and drowning combined.

"A gun at home is a proven risk factor for teen suicide--the second-leading cause of death in Canadian adolescents after motor vehicle

injuries," said Dr. Leonard, a Toronto paediatrician who co-authored of the CPS-CAAH statement on firearms.

Most Canadian youth who kill themselves with firearms choose the long gun, a weapon that until now has been loosely regulated by federal law. Groups like the CPS and the CAAH hope stronger legislation helps change that, said Dr. Leonard.

"Licensing and registration is the means to public safety and crime prevention," said Paul Monahan, a Toronto lawyer who has donated his services to represent the CPS, CAAH and Canadians Against Violence Everywhere Advocating its Termination (CAVEAT).

The CPS and CAAH released a statement in 1999 reaffirming its support of gun control legislation, after school shootings in Littleton Colorado, and Taber, Alberta. The statement also included a series of recommendations aimed at reducing youth violence.

The document is available at <http://www.cps.ca/english/about/GunControlStatement.htm>.

Prevention of firearm deaths in Canadian children and adolescents, a CPS statement, is available on the CPS website at <http://www.cps.ca/english/statements/AM/am95->

Easier and Faster!

www.acsa-caah.ca

The CAAH new Website

We have added some interesting documents.



Scientific Events

1st Maritimes Regional Meeting of CAAH

Moncton, Hotel Beauséjour, November 17-18 2000

Under the theme "Ado-Action Santé" this Conference will be held in **French**. Main speakers and workshops will discuss mental health topics such as: attention deficit disorders, affect disorders, anxiety, identifying mental health problems. The meeting will start Friday afternoon and will end Saturday evening with a panel of Youth.

The program of this conference will be available end of July; it is possible to register on the CAAH website in the symposium link to re-

ceive the program once it will be available.

For more information and a complete program:

CAAH
 Section médecine de l'adolescence
 3175 Ch Ste-Catherine
 Montreal QC H3T 1C5
 Tel: (514) 345-9959
 Fax: (514) 345-4778
 Website : www.acsa-caah.ca

3rd Ontario Regional Meeting of CAAH

Ottawa, October 27 2000

The 3rd Ontario regional meeting of CAAH will be under the theme of "eating disorders". This meeting will be presented in English. The conference will be mainly about eating disorders in adolescence, prevention and treatment. The morning workshops will discuss prevention and early intervention of eating disorders and the afternoon will be devoted mainly to treatment. The meeting will end with a brief look at networking opportunities for intervention.

The program of this conference will be available end of July; it is possible to register on the

CAAH website in the symposium link to receive the program once it will be available.

For more information and a complete program:

CAAH
 Section médecine de l'adolescence
 3175 Ch Ste-Catherine
 Montreal QC H3T 1C5
 Tel: (514) 345-9959
 Fax: (514) 345-4778
 Website : www.acsa-caah.ca



Youth and the Promise of a New Millennium?

London, England, October 19-20, 2000

This is the Third International Conference on Adolescent Health and Welfare. The programme contains parallel sessions. Each day will begin and end with keynote lectures by special invited speakers from around the world. Delegates will be able to choose between attendance at two alternative plenaries or one of five Workshops. The different plenary sessions are: Sexuality, Health & Physical Challenge, Teenage Pregnancy & Parenthood, Youth violence and the Law, Mental Health, Social and Behavioural Issues, Youth and the Family and Abuse and Self

Harm. During the lunch break there will be a choice of joining an informal discussion group or having lunch in the dining room followed by one of the Special Seminars. These will focus on Youth Participation.

For more information:
Conference Secretariat
13 High Street
Penge, London SE20 7HJ UK
Tel : 44 181 325 8162
Fax : 44 181 325 8647
Email : lisa@youthsupport.demon.co.uk
Web : <http://www.youthsupport.org>

Canadian Conference on Injury Prevention and Control – 2000

Edmonton, Alberta, October 19-21, 2000

The Canadian Conference on Injury Prevention and Control – 2000 is about uniting research and practice; networking with other practitioners; addressing the full spectrum of injury control; and addressing all injuries – unintentional and intentional. The conference will address six major injury themes: Road safety, Occupational safety, Intentional injuries, Home, Sport and leisure safety, Post-trauma and Populations at risk.

The Canadian Conference on Injury Prevention and Control – 2000 will be an information-sharing experience for a wide range of professional groups and disciplines

that have a stake in injury prevention and control. Among these are hands-on practitioners, evaluators, health care providers, researchers, planners, law enforcers, and other stakeholders.

For more information:
Alberta Centre for Injury Control and Research
#4075, Education Development Centre,
University of Alberta
8308 – 114 Street
Edmonton AB T6G 2V2
Tel: (780) 492-6019
Fax: (780) 492-7154
Email: acicer@ualberta.ca



7th IAAH Congress

Salvador, Bahia, Brasil, May 12-17, 2001

The International Association for Adolescent Health will hold its 7th International Congress in conjunction with the annual general meeting of the Associação Brasileira de Adolescência and the Sociedade Brasileira De Pediatria.

Theme: Yes to Life! No to Violence

Format: An exciting mix of plenary speakers, panel presentations, forums, workshops, poster sessions and displays plus a youth for youth health conference.

Languages: Portuguese and English. All plenaries will be simultaneously translated, some sessions will be unilingual.

Audience: youth and non-youth, multidisciplinary, national and international. Why not join us in lovely, historic Salvador. This truly international event will combine an excellent scientific program with the warm hospitality of Bahians. Opportunities for professional networking and lively intergenerational interaction promises to make this a memorable event on the international adolescent health calendar.

For the most up to date information visit the IAAH website at www.iaah.org

For more information:
IAAH Secretariat

Perspectives and Challenge : A multidisciplinary International Conference at the Threshold of the 21st century.

Jerusalem, Israel, September 11-14, 2000

The conference is being organized by the Israel Society for Adolescent Medicine (ISAM) in collaboration with the Society for Adolescent Medicine (SAM) and the International Association for Adolescent Health (IAAH). Adolescent health services have been developed in many countries and teenagers receive comprehensive care in medical as well as psychosocial and cultural aspects, administered by multidisciplinary teams. Keeping in touch with new approaches to adolescence in the rapidly changing world, there will be keynote lectures, plenary sessions

and seminars in the various domains of the adolescent condition, including medicine, gynaecology, eating disorders and behavioural/cultural issues.

For Information:
ISAS International Seminars
POB 34001
Jerusalem 91340 ISRAEL
Tel: 972-2-6520574
Fax: 972-2-6520558
Email: confer@isas.co.il



Articles

About Youth Participation

A workshop on youth participation was held during a Conference organized by The International Association for Adolescent Health in Washington, March 2000.

This workshop mainly tries to show the benefits of youth participation for youth and for the community, and how to do it.

The benefits of Youth participation for Youth

- Training for the leaders/professionals of the future
- Self worth-ability to do things for themselves and others
- Healthy for youth, inter-class solidarity
- Identity formation
- Self-esteem
- Training & competence
- Building life projects
- Staying connected
- Empowerment
- To be heard, participate in development
- Recognition in community as positive members
- Can take the lead in new areas e.g. sexual minority youth
- Peer mentoring, training to be next leaders (South American e.g. of the next government)
- Humour-energetic, creative inspiration to adults
- May (we hope) bring changes to issues that are important (not just to youth)
- Increases their responsibility
- Education of adults

Benefits of Youth participation for the Community

- Visibility of youth issues
- Inspiration to community members

- Helps community to mature
- Accountability
- Anxiousness of community members due to new issues raised by youth... forces community to address these issues
- Reduction of violence
- Control of intergenerational conflicts
- Energy, passion
- Hope for future
- Community cohesiveness
- Community innovation
- Forces community to ask youth about their needs
- Training for everyone
- Youth leadership
- Communication improves
- Happiness
- More visibility of ecological issues
- Guarantees future development community
- Increased communication and dialogue
- Enables service providers to adapt services to meet needs of youth appropriately
- Economic development

The following notes are additions to participants lists created in the workshop.

Outreach and Recruitment

- Methods of recruitment: radio/television
- How to recruit/Incentives: training for youth/recognition

Communication & Role Clarity

- Flexibility
- Youth speak-youth-friendly translation from 'adult' language
- Facilitation
- Direction
- Mentorship



- Confidentiality
- Youth establish own roles in conjunction with adults
- Ground rules/expectations
- Respect
- Listening

Nitty Gritty

- A buy (from youth) in to meetings
- Logistics-honorariums, awards/recognition, follow-up/follow-through
- Delegation

Developing Sustainability

- Skills and support - evaluation and measurable outcomes
- Commitment - high turnover of youth, mentorship

- Resources - matching funds, co-location (site integration), genuine collaboration
- Quid pro quo - trade, bargaining, I'll scratch your back...

Barriers and Sustainability

- Timing -right place, right people, scheduling
- Commitment : participation options, creativity, flexibility - age, culture, community, experience
- Bureaucracy : solutions may seem extreme or strange, expectations, cultural differences, culture shock
- Vision

Summary by Sarah Brandon, Youth net, Ottawa.

The Canadian Association of Adolescent Health would like to thank you for coming to the 7th Annual National Meeting. We expected a participation of 300, but finally we have reached a record number of 410 participants. During the two days of the meeting, participants have had the chance to hear fourteen guests speakers, and participate in about thirty workshops and twenty updates in both languages. Feedback from our participants are very positive. We would also like to thank members of the program committee, all our guests speakers and workshops animators for their outstanding effort and contribution to the success of this year meeting.



With Teen Pregnancies Skyrocketing, Ob/gyns Seek Support for Nonprescription "Morning-after Pill"

Barbara Sibbald

Support for a move to make emergency postcoital contraception available without a prescription appears to be mushrooming in Canada. The Society of Obstetricians and Gynaecologists of Canada (SOGC) and 23 other medical and pharmaceutical organizations have joined the groundswell of support since the SOGC launched a campaign to increase awareness and availability of the "morning-after pill" in November 1998.

But before tackling the issue of legislation needed to delegate prescribing authority, the SOGC is trying to ensure that it has broad support by asking 50 other organizations to endorse its motion. "We can't go it alone," explains Rosemary Killeen, the SOGC's director of communication and partnerships.

The 23 supporters who have signed on since March include the Canadian Pharmacists Association, the Royal College of Physicians and Surgeons of Canada, the Canadian Nurses Association, the Federation of Medical Women of Canada, the Canadian Paediatric Society, 6 provincial medical colleges and others. Recently, the SOGC received verbal approval of the motion from the National Association of Pharmacists Regulatory Authorities; the CMA is currently considering the motion.

The impetus for the motion came from the SOGC's June 1998 *Contraception Consensus Document*, which revealed that the number of teen pregnancies is increasing rapidly — by 18% between 1987 and 1994. The morning-after pill can also prevent unintended pregnancies for women in their 30s and 40s, many of whom use emergency postcoital contraception (EPC) due to contraceptive failure. The SOGC says EPC must be made more accessible because the sooner it's taken following intercourse — up to a maximum of 72 hours — the more effective it is. The SOGC says it makes sense to allow pharmacists to

dispense the drug. "Pharmacists are the most accessible health care professionals," says Killeen.

For some health care groups, approval of the SOGC resolution has been somewhat controversial. Although the SOGC called for the drug to be available without prescription in pharmacies, family planning clinics, emergency rooms and walk-in clinics, and through school health programs, the Canadian Pharmacists Association (CPhA) motion restricts availability to pharmacists.

"Our board felt [the SOGC motion] was too broad," explains Janet Cooper, the CPhA's acting director of research and practice development. "We needed to have some controls. . . . We wanted health care professionals offering it."

In addition, some CPhA members feel emergency contraception "may interfere with implantation of the fertilized egg and they consider that more [like] abortion," said Cooper. Pharmacists for Life, a Canadian group with about 10 members, has already opposed the move, even though the World Health Organization (WHO) says taking the drug is not equivalent to performing an abortion because the woman is not pregnant.

Despite these concerns, says Cooper, the bottom line is that increased availability is a public-health issue. The CPhA and SOGC set up a 4-member joint working committee in July to look at the logistics of the project, though no completion date has been set. Two committee members, including Cooper, have studied a Washington state pilot project that allows certain pharmacists to receive prescribing authority. The state has a toll-free number that women can call to find these pharmacists. In that program's first year, 9000 prescriptions were dispensed. "It's not totally transferable [to Canada]," says Killeen, "but



we can use their ideas."

Ideally, says Cooper, emergency contraception would become a schedule 2, behind-the-counter drug. Pharmacists would receive specific training in appropriate therapeutic protocols, patient counselling and referrals on contraception, sexually transmitted disease and related subjects. They would also be trained to identify victims of abuse or sexual assault.

The major stumbling block in Canada will be to change some provincial legislation to allow physicians to delegate prescribing authority under certain conditions. Cooper says the CPhA will also need to build in provisions for pharmacists who don't want to prescribe the drug for moral, ethical or religious reasons.

The SOGC's efforts come at an opportune time

because Canada's first dedicated emergency-contraception drug, Preven, recently got the nod from Health Canada and should be available this fall. It is a combined oral contraceptive containing ethinyl estradiol and levonorgestrel (Yuzpe regimen). Currently, Canadian women typically take 4 norgestrel-ethinyl estradiol (Ovral) pills over a 12-hour period — 2 immediately and 2 more 12 hours later; usually they must buy a full cycle of the pills, although some doctors write 4-pill scripts. It is also common to recommend anti-nausea pills, since nausea is a common side effect. Another product — Plan B, the first progesterone-only pill — has been approved in the US and is being considered here.

"With teen pregnancies skyrocketing, ob/gyns seek support for nonprescription "morning-after pill"" * Reprinted from, by permission of

“Ideally, says Cooper, emergency contraception would become a schedule 2, behind-the-counter drug. Pharmacists would receive specific training in appropriate therapeutic protocols, patient counselling and referrals on contraception, sexually transmitted disease and related subjects. They would also be trained to identify victims of

Plan B: A Progestin-Only Emergency Contraceptive

The FDA has approved marketing of *Plan B* (Women's Capital Corporation), an emergency contraceptive "pill pack" that contains two 0.75-mg tablets of levonorgestrel. It is the second product to be approved for this indication. The *Preven* Emergency Contraceptive Kit (Medical Letter, 40:102, 1998) includes four tablets, each containing 50 µg of ethinyl estradiol and 0.25mg of levonorgestrel, and a pregnancy test to rule out a pre-existing pregnancy, which would be a contraindication to taking the hormones.

MECHANISM OF ACTION — The mechanism by which high doses of estrogens or progestins taken after coitus prevent pregnancy is unclear. They can inhibit or delay ovulation.

Some studies have shown alterations in the endometrium, suggesting that they could also interfere with implantation of a fertilized egg, but other studies have found no such effects. Other possible mechanisms include interference with fertilization or with tubal transport of the embryo (A Glasier, *N Engl J Med*, 337:1058, 1997).

PROBABILITY OF PREGNANCY — Unprotected intercourse three days before ovulation results in pregnancy in about 15% of women, one or two days before ovulation in about 30%, and on the day of ovulation in about 12% (J Trussell et al, *Contraception*, 57:363, 1998). More than two days after ovulation, the probability of pregnancy approaches zero.

EFFECTIVENESS — A randomized controlled trial compared levonorgestrel 0.75 mg alone with ethinyl estradiol 100 µg and levonorgestrel 0.5 mg together. Both were taken twice 12 hours apart, within 72 hours after coitus. Pregnancy occurred in 11 of 976 women (1.1%) with levonorgestrel alone and in 31 of 979 (3.2%) with ethinyl estradiol plus levonorgestrel (Task Force, *Lancet*, 352:428, 1998). The sooner the drug is taken after co-

itus, the more effective the treatment; delaying the first dose by 12 hours increased the risk of pregnancy by almost 50% (G Piaggio et al, *Lancet*, 353:721, 1999).

ADVERSE EFFECTS — Nausea and vomiting can occur, but less frequently than with the estrogen-progestin combination. In the controlled trial, nausea occurred in 50% of women and vomiting in 19% taking the estrogen-progestin combination, compared to a 23% incidence of nausea and a 6% incidence of vomiting with levonorgestrel alone. Breast tenderness can occur with either regimen. No fetal malformations caused by unsuccessful use of high-dose oral contraceptives for emergency contraception have been reported.

DOSAGE AND COST — One 0.75-mg levonorgestrel tablet should be taken as soon as possible after coitus, but at least within 72 hours, and the other 12 hours later. Patients who vomit within one hour of taking either dose can repeat it, but presumably that would require purchase of another package or finding another source of the tablets. One *Plan B* pill pack costs about \$21, compared to about \$20 for the *Preven* kit. *Plan B* is currently available only from Women's Capital Corporation (800-330-1271).

CONCLUSION — Use of levonorgestrel alone in the *Plan B* emergency contraceptive product as soon as possible after unprotected coitus can decrease the risk of pregnancy. It appears to be more effective and better tolerated than estrogen-progestin combinations.

Note: Plan B has also been approved in Canada.

Reproduced from: *The Medical Letter*, Vol 23, No. 22, February 11, 2000



Hepatitis B Virus Infection Among Street Youths in Montreal

Hepatitis B virus is a major cause of chronic liver disease and primary hepatocellular carcinoma in North America. Among adolescents and young adults it is transmitted mainly through unprotected sexual intercourse. The sharing of injection material among drug users is another major risk factor. Tattooing and body piercing may also play a role, but the magnitude of this risk is not well known.

Note: Although Hep. B can be transmitted by tattooing and body piercing; we now have the technology to sterilize needles and other equipment to prevent such occurrences.

In a recent seroprevalence study in northern Ontario involving people 14-30 years of age, HBsAg seroprevalence rates were estimated between 0.24% and 0.47% and anti-HBs seroprevalence rates between 0.40% and 0.78%. Among young adults presenting to an urban STD clinic in Ontario, 2.7% were found to be HBsAg positive.

Few studies have been published on the prevalence of HBV infection among street people. In a New York study 12% of men living in a shelter were found to be positive for HBsAg and 43% had HBV antibodies. Among 87 street youths in Toronto (mean age 16 years), 8 were found to be anti-HBs positive. In a more recent New York study 21% of homeless adolescents recruited in an urban drop-in center had evidence of prior HBV infection.

The study was conducted from December 1995 to September 1996. Subjects were recruited from among those participating in the Montreal Street Youth Cohort (MSYC) study, which began in January 1995 and followed youth over time for changes in sexual and drug use behaviors and HIV infection. Subjects were eligible if they were between 14 and 25 years of age, spoke French or English, intended to stay in Montreal during the following year and were "street active". (Had either

been without a place to sleep more than once or had regularly used the services of Montreal Street Youth agencies during the previous year).

Participants were also tested for Hepatitis C; because of the public health implications and the risk factors associated with Hepatitis C are somewhat different, the results concerning Hepatitis C in this population will be presented in a future paper.

Results

A total of 437 street youths participated in the study, 372 of whom were recruited from among the MSYC study participants. The cohort and non-cohort subgroups were similar with respect to socio-demographic variables and risk behaviors such as prostitution, injection drug use and homosexual relations. The mean age was 19.5 years, and 69.3% (303/437) were males. Most (94.3%) were born in Canada, and most had Canadian-born parents (85.3% had a Canadian-born father and 91.2% a Canadian-born mother).

In terms of medical history, 4.1% (18/436) of the subjects reported a history of HBV infection. At least one dose of hepatitis B vaccine had been given to 38.5% (168/436); only 11.8% (51/434) of the participants had received 3 doses. Twenty-one (4.8%) reported that they had received blood or blood products for medical reasons. A small proportion (1.1%) said that they injected steroids.

Over Half (56.5% {247/437}) of the participants said that they had one or more tattoos (range 1-30). Of these, 162 (65.6%) had at least one tattoo done by a non-professional. As for body piercing, 40.3% (176/437) had a body part other than ears pierced; of these 101 (57.4%) had at least one piercing done by a nonprofessional.

Note: While some nonprofessional tattoo artists, and body piercers, use new needles every time they do a tattoo or piercing, others use more conventional methods such as bleach. I recommend to go to a professional if you are going to get a tattoo or piercing.

Most of the street youths were sexually active; 99.3% (434/437) reported heterosexual relations, and 18.3% (80/437) said they had had at least one homosexual partner in their lifetime. Proportionately more girls than boys reported homosexual activities (24.6% v. 15.5%) More than half (55.7%) of the participants reporting heterosexual relations and 21.3% of those reporting homosexual relations had had more than 10 partners in their lifetime. One quarter of the participants (24.5% {107/436}; 40.3% of the girls and 17.5% of the boys) reported having ever had sex in exchange for such items as money, gifts, drugs or a place to sleep.

In all, 45.8% (200/437) of the participants reported having ever injected drugs, 47.8% of the girls, 44.9% of the boys). Age at first injection ranged from 10 to 24 years (mean 16.8 years overall, 16.1 for girls, 17.1 for boys). During the month before the interview, 10.6% of the 200 injected daily 16.6% injected several times a week, 21.1% injected sporadically, and 50.8% abstained.

Just over half (51.8% {103/199}) of the youths who reported having injected drugs said they had borrowed a used needle at least once. Other injection materials were borrowed as followed: cotton (38.2%), spoon (56.8%) and water or other substances to clean needles and syringes (43.2%)

Of the 434 participants who completed the laboratory tests, 40 were found to be positive for one or both HBV markers, for a rate of 9.2% (95% confidence interval (CI) 6.7%-12.3%); 1.6% were HBsAg positive.

Being over 18 years of age, having injected drugs and having had a sexual partner with a history of unspecified hepatitis were all independently associated with HBV infection. Having had at least one tattoo and having had body piercing were not found to be significant factors; nevertheless, they contributed as adjustment variables, and their odds ratios suggest that they may be associated with HBV infection.

Conclusion

Physicians will need to continue to verify vaccination status and offer vaccination to adolescents when they come in for other medical consultations. Innovative programs will be needed to educate street youths about the prevention of blood borne infections and to provide them with comprehensive health care that will include HBV vaccination. Sexual risk behaviors and injection drug use put these youths at high risk for hepatitis B and many other preventable diseases. Youth-friendly, accessible medical and social services, including substance abuse treatment programs, are urgently needed for this population.

Reproduced from Monthly News in Adolescence, October 1999.

Original research: CMAJ 167 (6), 1999.

Authors: Roy E., Haley N., Leclerc P. et al.

**It is the time to renew your membership
if you have not already done so !**



The Griffin Center: HYTS (Helping Youth Towards Solutions)

Joe Dunn

At a recent conference of The Canadian Association for Adolescent Health, I attended a unique seminar led by staff from the Griffin Center, a North York program for troubled youth. This Program takes a different approach to treating problem youth and addicted teenagers, aged 12-18. Using a client-structured environment, they "help the youths to help themselves". They first help the client to admit that he/she has a problem, and they then help them set realistic goals that they can reach without a setback. They believe there is no sense in setting unreachable goals. For example, a young female might come in highly addicted to opiates, using three or four times a day. An appropriate goal for her would be to decrease her daily usage by half, an achievable goal. After the primary goal has been reached, another goal can be set.

The Griffin Center has a unique engagement process, starting with a tour and intake assessment. If the client likes what he or she sees, they move on to goal setting and an introduction to the Program. Each individual has four parts to their program: academics, expectations, family therapy, and group therapy. The academic part of the program helps the student set academic goals, which they achieve using support and guidance to assess what it will take to re-enter the school system. In family therapy, the kids and parents sit down together and set some goals and limits, with an optimistic point of view.

The group therapy for the day follows the following outline:

1. AM check in, (here students put on the board any drug use in the previous day)
2. Narrative group

3. Choices group: this group incorporates decision making and anger management training
4. Art therapy group
5. Open group

There are some unique qualities that I see at the Griffin Center. They use a technique that I have not seen used before, where the clients sign in with their name, date, and whether or not they used that night (a process that allows their peers to see what they are doing and one that provides an embarrassment incentive not to use). Peer support is a primary goal of the program as is safety.

The art therapy program is another unique quality of the Griffin Center Program. The daily group is divided into creation and discussion. It is an open environment with only a couple of rules, no editing, no thinking, and drawing whatever is on the mind. Discussion allows the client to interpret for the group what the drawing means for him or her. There are no marks and no pass or fail.

The Griffin Center Program uses dynamic innovative ways to help youth help themselves. The client-centered approach, setting realistic goals, a varied group approach, and a clean, structured and safe environment are the ingredients of this successful program.

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Griffin Centre
24 Silverview drive
Toronto ON M2M 2B3
Tel: (416) 222-1153
Fax: (416) 222-1321



Hockey Players Must Face the Possibility of Brain Injuries

Nancy Deutsch

Hockey players who suffer repeated concussions in the course of play may want to think about watching the sport rather than participating. Research here shows that players who suffer three or more concussions likely have some form of permanent brain damage.

After several concussions, "the brain starts to do simple things differently," noted Michael Gaetz, a Simon Fraser University researcher and graduate student.

Gaetz spent last fall assessing the brain function of 300 junior league hockey players with EEGs and computer tests designed to measure motor skills, reaction times and co-ordination. He tested all players at the beginning of the hockey season for a baseline reading, then re-tested those who suffered a concussion within 24 hours of the accident, with follow-up tests at two weeks, one month and three months. Players were reached quickly following a concussion because Gaetz travels in a mobile testing unit.

Players who had suffered three or more concussions in their lifetime took 50 milliseconds longer in visual cognitive event-related potential than players who had never had a single concussion, he said.

While changes were noticeable after a single concussion, the brain did seem to heal itself quickly, he said. "Brain responses do recover quite a lot of function in three months"

due to cell regeneration, Gaetz explained. "The brain is fairly good at reorganizing itself."

However, after three or more concussions,

"there seems to be a real cumulative effect."

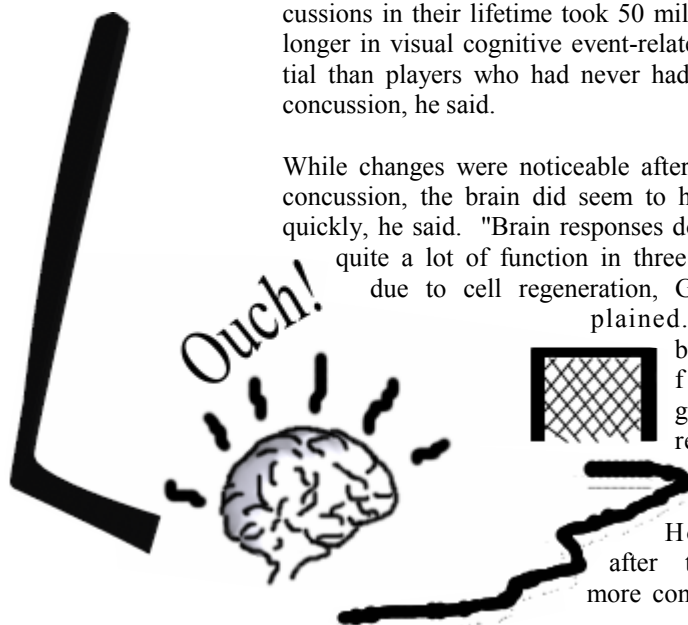
Even before this research there have been signs that a career in a contact sport such as hockey can lead to changes in brain function, including problems with attention span, short-term memory, and mood, Gaetz said. In past years, players such as Brett Lindros and Paul Kariya have left hockey citing problems with brain function they blamed on the sport.

Brain function problems in hockey players can be compared to problems identified in people who have been in motor vehicle accidents, Gaetz said. The nature of these injuries is often similar, as there is quick acceleration and deceleration of the brain in the skull in both instances, he said. In the study completed last year, 60 of the 300 hockey players, averaging 16 to 20 years of age, reported concussions.

That is an incidence of one in five players, and "that is high," Gaetz said. He is conducting a similar study this year, and has found that only 25 of 280 players have reported concussions to date. The average number of concussions suffered by hockey players in any season is probably somewhere between the two, Gaetz said.

He believes some of the concussions go unreported because players are worried they will not be permitted to play due to concerns about their health in the wake of a concussion.

Most of the injuries reported occurred when a player slid headfirst into the boards. Other concussions were due to accidental blows to the head from shoulders or elbows. Scuffling actually fell low on the list of causes, Gaetz said. He noted that the sport does not seem to be equally dangerous to all. Some players have a lengthy hockey career without suffering a single concussion. "I've played hockey my whole life" (or, rather, 29 of his 34 years), and suffered only a single concussion at age nine.



"I don't think it (hockey) is any more dangerous than any other contact sport." However, players should be aware of the potential damage, and take their concussion seriously, he said.

Gaetz recommends resting after a concussion, but could not suggest how long a rest is necessary.

"We're really at the forefront of this (research)." In addition to more research of this sort, Gaetz would like to do long-term follow-

up on injured players.

Data collection for his current project will not be completed until next June, and then the data will need to be analyzed, Gaetz said. Results of last year's study have not yet been published. While the research is being conducted out of Simon Fraser, the mobile unit has been lent to the university for a period of three years from the B.C. Rick Hansen Neurotrauma Initiative.

Reproduced from The Monthly News in Adolescence. Original article from The Medical



Flowers need only
water to grow,

But to achieve our goals your
association needs your help.

Publicize CAAH,
Send us articles, news,
programs, etc...





Out From the Shadows and Into the Light

Save the Children Canada has developed the *Out From the Shadows and Into the Light* project to provide us with the next step in the long journey of saving our children from this all too widespread form of exploitation.

Save the Children-Canada is a non-political, non-sectarian organization that has spent 80 years working for the rights of children. They work to battle abuse and exploitation of boys and girls worldwide. Save the Children Alliance has a successful record in helping children exit the sex trade in many countries around the world. They now find it necessary to bring this expertise to Canada and help our children at home.

The project *Out From the Shadows and Into the Light* is a follow-up to the extremely successful *Out From the Shadows – International Summit of Sexually Exploited Youth* that took place in Victoria BC in March 1998. Co-chaired by Senator Landon Pearson and Cherry Kingsley, the Summit brought together youth from North, South and Central America and the Caribbean with personal experience in the sex trade. Together they developed a Declaration and Agenda for Action that has begun to influence programs and policy nationally and internationally.

Effective strategies and solutions to complex issues require a commitment from many levels – from communities, from government, from individuals – and we believe that the voice of sexually exploited children and youth is key to the success of any strategy to address this issue.

Using a community development approach and beginning with the youth themselves the project is working with communities to develop their own home grown strategies. The project is designed to raise awareness of the issue across Canada, change public attitudes, increase the sensitivity of people who work with youth, provide direct assistance to agencies, and ultimately decrease the market

for sex with children. Project plans include a national network of sexually exploited youth and the development of a long term strategic plan as well as the creation and distribution of a wide range of informational materials on the issue.

Canada's leading advocate for sexually exploited youth, Cherry Kingsley, has joined Save the Children Canada to spearhead this project.

Cherry Kingsley is a survivor of child sexual exploitation and years of IV drug use. Through her own healing and reconnecting with her First Nations' culture, Cherry has become a powerful factor in bringing about an awareness of the commercial sexual exploitation of children and youth. She is able to address street people and statespersons equally effectively. Her commitment to end exploitation has brought her before audiences around the world. From the World Congress Against the Commercial Sexual Exploitation of Children held in Stockholm, Sweden in 1996 sponsored by Unicef to the United Nations in New York to a national convention of Police Chiefs, Cherry rocks her listeners with stories of tragedy and torment as well as her vision for change.

National Youth Network of Sexually Exploited Youth

The Network links youth from across Canada who share the experience of being in the sex trade. These youth were chosen from those who attended the *Out from the Shadows Summit*, have expressed interest in the network and show leadership potential.

Additional youth were recruited from parts of Canada where Summit participants are no longer available. Network members are working on providing information, education, networking, capacity building, building partnerships, principles of participation, health education and prevention.



Consulting with sexually exploited aboriginal youth

Consultation with aboriginal youth brings young people in and from the sex trade together in order to accurately reflect their situation. The main objective is to investigate and recount, from their perspective, the phenomenon that leads this disenfranchised group of young people into the sex trade. Another objective is to encourage aboriginal youth to find support and help in the development of a national sexually exploited youth network.

Save the Children will consult with twenty-one different communities across Canada. The

intention is to identify seven urban, rural and reserve communities that are known to have a high percentage of aboriginal kids in the sex trade.

As a result of working with and acquiring a better understanding of aboriginal sexually exploited youth we, sexually exploited youth, Save the Children and community agencies, can help facilitate the development of services, supports and existing mechanisms for these young people.

For information:
Save the Children
2177 West 42nd Avenue
Vancouver BC V6M 2B7
Toll Free: 1-800-325-6873

Eating Disorders 3rd Ontario regional Meeting of CAAH

Ottawa, October 27 2000

**We hope that you will be able to attend this
interesting event**



Red Door Program Aids Sexually Active Teens

Gordon Delaney, Valley Bureau, Red Door

A health and support centre for teenagers has a new program intended for sexually active young women.

The Red Door, based in Kentville, now provides women under 20 with Pap tests and screening for sexually transmitted diseases.

The tests are administered by nurses in the facility, at 20 Webster Ct., behind the Cornwallis Inn.

The health and support centre opened nine years ago to provide services for young people. "Through a series of surveys, it became clear that women are under-screened, and adolescent women have an added risk," said Dr. Chris Toplack, one of two doctors on the Red Door medical advisory committee.

Sexually active women under 20 have been identified as a high-risk group for cervical abnormalities and sexually transmitted diseases. The reasons included the early age they begin sexual intercourse, multiple sexual partners, contact with high-risk men and smoking.

In Nova Scotia, 56 percent of Grade 11 students have had sexual intercourse, with three of every five having two or more partners, according to the latest Canada Youth and AIDS Study.

Research also shows women under 20 have low rates of screening for disease. When asked in a survey why they don't have a yearly Pap test, 39 per cent of women respond that they were embarrassed, and 30 per cent said they

feared pain.

A recent survey of more than 100 girls and women between 13 and 20 in Kings County schools showed two-thirds didn't know what a Pap test was. One-third said they would rather go to a centre like the Red Door for screening than a doctor's office.

"That's why we're addressing this need in a youth-friendly atmosphere here at the Red Door," Dr. Toplack said, adding that three nurses have been trained to provide the services.

Having local nurses do the screening instead of doctors is new in the Annapolis Valley, Dr. Toplack said. But nurses in urban areas, including Halifax, are conducting these tests.

Phyllis Sweet, a retired community health nurse and coordinator of the Red Door said she thinks the facility is "overcoming some of the barriers young women have by doing the screening here with female providers."

Ms. Sweet is one of the nurses involved in the program. The others are registered nurses Jo Waterbury and Hope Graham, volunteers at the centre.

The Red Door also provides information on reproductive and other health issues, along with counselling, Ms. Sweet said.

The program is still being evaluated but most responses have been positive, she said.



Groundbreaking Service Puts Red Door on Health Care's Cutting Edge

In order for the Pap smear procedure to be effective a woman must come for the procedure. If any barriers or discouraging experiences prevent women from coming, then the health care team has been ineffective.

Kentville's Red Door, for nine years a model centre for wellness and accessible services for youth, now offers one more important service to a high-risk group of women.

Following a successful pilot project, the Red Door is providing Pap smears and screening for sexually transmissible infections (STIs) to young women. The target group of sexually active women under the age of 20 has been attracted by a non-threatening atmosphere and female providers.

In Nova Scotia, the early age of intercourse, multiple sexual partners, contact with high risk male sexual partners and smoking all contribute to an increased risk for cervical abnormalities and STIs. The lack of screening for this population has been attributed to embarrassment, fear of pain and the relatively few female physicians available to carry out the procedures.

The pilot program at the Red Door, through provincial guidelines for shared competency training has prepared three volunteer nurses to perform the screening. Medical committee member Dr. Chris Toplack said Monday that the three nurses have been so successful: a) because they are women; and, b) because the Red Door is youth friendly.

"That makes it self-empowering. It's a qualitatively different experience," she said for the teens coming to the Red Door. The program has just published a manual that can help nurses in other centres train to perform the screening.

Not that nurses have never carried out the procedures in Nova Scotia before, but outside Metro Halifax it was almost always doctor doing the screening. Rural women, in general have been documented in studies as under-

screened. Toplack says adolescent women are at particular risk.

The medical committee's delight at the Red Door's new service is because the centre attracts "a riskier, more vulnerable population," Toplack noted. Many physicians, she said, book Pap smears and face "no shows".

Being able to channel adolescent through a non-traditional setting like the Red Door for this clinical component is a new advantage that Toplack says teenaged girls will find vastly more attractive than the traditional male doctor's office.

"I think they listen to their peers talk about the good experience they had at the Red Door," says Toplack, and word of mouth will bring more young women into the Kentville centre.

She pays tribute to the three "exceptional nurses" who began training in May of 1997 to do the screening. Clinic coordinator Phyllis Sweet, who is one of the trio, says that the pilot project, which ended last September, proved to be very rewarding.

The project arose out of the 1996 survey of 103 young women aged 13 to 20 in Kings county schools, which demonstrated a need for improved education on reproductive care. Two-thirds of that group could not accurately report what a Pap smear was for.

Sweet and her colleagues, Joy Waterbury and Hope Graham, have thus far screened 83 young women. Given the early rate of sexual activity and the high rate of teen pregnancy in Nova Scotia, this chance to inform a high risk group about reproductive health care has been an important educational opportunity, says Sweet.

"We want to get them young, get them early and teach them about a healthy lifestyle. We want them to have a positive first experience (with a Pap smear) and prevent those 50-year-old women who've never been screened," Sweet stated.

The highly experienced nurse says she thinks the centre has overcome many of the barriers that have been cited previously. "We put our focus on young women's bodies," she says.

Sweet notes that their manual can help groups in places like Cape Breton.

For Toplack, the newly minted manual provides “a well documented policy and process.” It also ensures that the results of screening are communicated to family physicians like her.

The Red Door attracts seldom or first-time health care presenters, as Toplack calls them, between age 13 and 30. Women come from as far away as Windsor and Yarmouth because of the non-traditional setting and anonymity.

She says teen health centres like the Red Door are “a sorely underfunded area” within the health care system. Toplack and Dr. Elizabeth King also visit satellite centres at Central Kings, Horton and West Kings in order to reach this vulnerable population. Young women who have left school only have the

Red Door to go if they seek these kind of services.

Another member of the medical committee, Kentville gynaecologist Jas Singh says, “we need this type of service in rural communities all over Nova Scotia.”

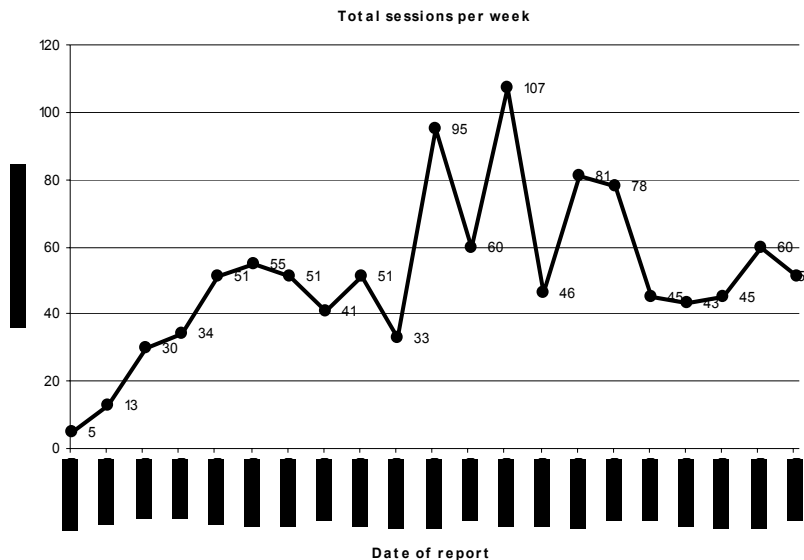
He adds that there aren’t very many physicians who will worry about female practitioners taking work away from them. “The test is the most important thing,” he says, “not the politics of the situation. I won’t be concerned that they will cut into my turf.”

In fact, notes Toplack, the gynaecological cancer screening program has gone on record as saying any and all options have to be explored to improve access to screening.

All women who are sexually active or 18 years of age should have an annual Pap test. Since Nova Scotia has one of the highest rates of

Since the new CAAH website was launched on December 19th 1999 at <http://www.acsa-caah.ca>, we had 1276 visitors who have accessed to our site and perform many operations such as downloading a specific page or document posted, with an average duration of 12 minutes.

Here is a chart from the statistic report of our website activities on the number of sessions per week.





TeenNet: Using the Internet to Engage Youth in Health Promotion

The major sources of adolescent health concerns are largely preventable: e.g. smoking, excessive drinking, suicide, homicide, consequences of sexual behaviours such as STDs and pregnancy, drug abuse, eating disorders, mental illness, and injury and/or disability caused by motor vehicle or recreational accidents. Adolescence is the developmental stage when potential health risk behaviors are either initiated, or the individual passes successfully through this transition period into adulthood where the likelihood of initiation decreases substantially. This means adolescence is the ideal time in the life-course to prevent the onset of risk behaviors and to promote healthy patterns. Today's youth have access to more health information than ever in the past. Yet, health risk behaviors such as cigarette smoking and substance abuse have increased over the past 15 years. For these reasons, youth are a primary target for prevention and health promotion initiatives. The challenge persists: 'how do we engage teens?'

Youth today live in an interactive, highly media-orientated world. Interactive technologies captivate teens, providing enormous potential for exciting and innovative ways of engaging youth in prevention and health promotion activities. The increasing availability of information technology creates an innovative channel with the ability to reach a large number of young people, including those 'turned off' by traditional approaches. Health promotion programs that are interactive and involve peer lead components have been shown to be the most effective. The Web provides an ideal environment for interactivity and peer-to-peer interaction. Yet, 'how can we use information technology effectively for health promotion with youth?'

Goal

The TeenNet Project lead by Dr. Harvey Skinner (Department of Public Health Sciences, Faculty of Medicine, University of Toronto) works with a network of

collaborating partners directly involved in education and health promotion with youth. The goal of TeenNet is to generate new knowledge and develop practical tools for engaging youth in health promotion using interactive technology.

Objectives

1. To produce practical tools (CyberIsle and Teen Clinic Online Websites) for addressing teen health issues, by linking information technology with community participation.
2. To enable youth of diverse backgrounds to identify and express their health needs, enhance control over their personal health, and make healthy choices (behavior change).
3. To generate new knowledge and strategies for the effective use of information technology in health promotion with youth.
4. To increase the knowledge and skills of practitioners (teachers, health professionals, youth workers, etc) in using the Internet for prevention and health care with adolescents (PractitionerNet).
5. To disseminate CyberIsle, the Teen Clinic Online and PractitionerNet via the evolving Canadian Health Network.

Guiding Principles

1. Participation: key involvement (ownership) at all stages by teens.
2. Relevance: focus on health, personal and social issues identified by teens.
3. Autonomy Support: respect individual choice and exploration of options regarding health behaviour
4. Active Learning and Fun: engaging, flexible and highly interactive, stimulates self directed learning.
5. Access: designed and adapted to be accessible and relevant to diverse populations.



Critical Success Factors

1. Guided by sound theoretical models
2. Interactive, fun and stimulate self directed learning.
3. Youth lead - involve youth at all stages (participation, social influence).
4. Systematically evaluated and improved.
5. Comprehensive and ongoing - related to a breadth of health issues using an ongoing approach (no 'silver bullet' or one hit fix).

Youth Driven

TeenNet underscores individual choice by teens and the exploration of options regarding health behaviour. TeenNet takes a "teens in action" approach that involves young people from diverse backgrounds in all stages of program development and dissemination.

Youth have been integrally involved in project design, development, implementation and evaluation. During the first three years of the project, 14 youth were employed, including two street-involved youth. In the summer of 1999, six youth worked to develop the Teen Clinic Online. Additionally, over 70 youth from Toronto, North York and Brant County have been involved in 'Reality Checks' (formative evaluation). This is where we piloted storyboards and screenshots with teens. TeenNet has also used Teen Advisory Boards and Quality Control Committees, which consist of teens, parents, teachers,

school board members, and health practitioners.

Partners TeenNet Tools

Components related to teen health and lifestyle issues have been developed for use in health settings, classrooms, community and home. In 1996-97, TeenNet worked directly with youth, health practitioners and educators to develop an interactive Website called CyberIsle to assist teens in addressing their physical, emotional, and social health needs. Since 1998, TeenNet has been working with youth and adolescent health practitioners to create a Teen Clinic Online for CyberIsle and a PractitionerNet for health practitioners and educators.

CyberIsle (<http://www.cyberisle.org>)

The main components of the CyberIsle Website include:

1. CyberIsle Homepage: gateway to all components, in the form of a teens only island, which requires a passport to enter,
2. Youth identified locations relevant to health: washrooms, dance club, Teen Clinic and a beach
3. Health Information: interactive, multimedia information on a comprehensive range of health issues,

TeenNet collaborates with a network of organizations directly involved in education and health promotion, including:

Brant County Board of Education	Ontario Institute for Studies in Education (OISE UT)
Bloorview MacMillan Centre	Ontario Tobacco Research Unit
Centre for Addiction and Mental Health	St. Stephen's Youth and New Media Program
Centre for Health Promotion (UofT)	Substance Abuse Program for African-Canadian and Caribbean Youth (SAPACCY), CAMH
Council for A Tobacco Free Ontario	Shout Clinic Toronto
Frontier College – Beat The Street	Spina Bifida & Hydrocephalus Association of Ontario
Kids Help Phone	Toronto Board of Education
FSC Internet	Toronto Public Health Department
Hospital for Sick Children, Teen Clinic	YMCA

These organizations have extensive experience with and access to teenage populations, including youth not participating in formal education and street involved youth.



- quizzes and interactive games,
4. Self-Assessment and Guided Change: assessment, individualized feedback and guided self-change strategies, tailored to readiness for change,
 5. HotTalk: ongoing, peer-led discussion groups and special topics forum using electronic networks such as discussion boards and chat groups.
 6. Practitioner Forum: educational curriculum, clinical practice guidelines, discussion groups, self-directed learning modules.

Teen Clinic Online

The Teen Clinic Online is a new component ("place") on CyberIsle currently under development. Using TeenNet's Action Research Model, the project team is working with youth and adolescent healthcare practitioners to investigate and develop a Web-based Clinic that meets teens' needs and engages them in meaningful ways.

The goal of the Teen Clinic Online is to provide youth with tools to make effective use of information technology to explore options and make decisions regarding their health. The Teen Clinic Online will provide youth with tools and self-directed learning components to assist them:

- Find information on the Internet
- Evaluate information on the Internet
- Share experiences and obtain advice in a way that is safe and confidential
- Make decisions

The Teen Clinic Online also seeks to link technology with the health care system and related services (e.g. community organizations) by providing youth with information on how and when to contact a health professional, and how to negotiate this relationships. Through brainstorming sessions, rapid prototyping and pilot testing of prototypes, youth working with the project team have guided the development of the graphical layout, navigation, components and content for the Teen Clinic Online component of CyberIsle.

PractitionerNet

Parallel to CyberIsle Websites for teens, TeenNet is developing a Practitioner Website (PractitionerNet). This is a place where practitioners (teachers, health professional, youth workers, those in social services) can meet, share ideas, access relevant hot links and resources, and gain an understanding of the TeenNet project and how to effectively use CyberIsle with youth. Once developed this site will have its own Internet address or URL (www.practitionernet.org).

The PractitionerNet will provide comprehensive resources, discussion groups and a continuing education module for practitioners on how they can use information technology (specifically the Teen Clinic Online) for clinical prevention and health care in their work with youth. The workshops will also provide practitioners with opportunities to address the issues of changing practitioner behaviors and patient outcomes.

The workshops will be developed for accreditation by the Continuing Education Program, Faculty of Medicine, University of Toronto, and will consist of both online and face-to-face components. In developing training for adolescent health practitioners, the project team will use a Continuing Professional Development (CPD) model. CPD programs involve learners (in this case, health care practitioners) directly in the negotiation and design of their learning programs.

Process and Implementation Evaluation

TeenNet has actively conducted process evaluation in four key areas:

Community Involvement: Teens have been integrally in TeenNet from the onset. Between 1995 and 1997, TeenNet employed 14 youth, including two street-involved youth, and used 20 youth in a Teen Advisory Group on the development of CyberIsle. Between 1998-99, TeenNet employed 6 youth, and used 3 Teen Advisory Groups to develop the Teen Clinic Online. School personnel, community organizations, health professionals, and school board members were also consulted.

Reality Checks (Formative Evaluation): Before converting components into Web



onnats, TeenNet conducts Reality Checks with groups of teens. In these pilots, teens reword questions, delete inappropriate comments, design a layout format, suggest graphical icons and rename sections.

Quality Review Committee: A group consisting of teens, teachers, health professionals, academics, and parents are responsible for setting guidelines and assessing the quality of all hotlinks on CyberIsle.

Qualitative Evaluation: CyberIsle was evaluated in 1996 and 1997 by two different sets of teens using short answer questionnaires, one-on-one interviews and focus groups. Teen Clinic Online was similarly evaluated in November, 1999 and will be re-evaluated in 2000.

CyberIsle Qualitative Results

In 1996, CyberIsle was pilot tested with 31 teens in Toronto, North York and Brant County. Teens were given 30 minutes to explore CyberIsle. They then completed a short-answer questionnaire and participated in structured one-on-one interviews where they were asked to comment on navigation, design and layout. Teens' comments were collated then fed back to the technical team, who reconstructed parts of CyberIsle according to the evaluation results. In 1997, a second pilot was held with 41 teens (21 male, 20 female), including 5 teens with physical disabilities. Teens came from both rural and urban locations and diverse cultural backgrounds. The teens were given 45 minutes to explore CyberIsle, and then filled in a short answer questionnaire, followed by a one-hour focus group.

What Teen's think about CyberIsle:

- "Very informative and colourful. Easy to access."
- "Very different than what I've seen before."
- "Pretty Cool. I like it. Graphics grab your attention."
- "[The quizzes are] an interesting way of being able to have an external look at myself .. It told me things about myself that I refused to admit."
- "It is fresh and original. Teens like that"

What Teen's think about the TeenNet project:

- "A cool idea"
- "Not many teens get the chance to actually be heard ... thank you."
- "It makes me as a teen feel good that people care about what teens think and what they have to say. Most of the time we are overlooked."

Smokers indicated that the Makin' Cents game on CyberIsle would encourage them to think about quitting smoking:

- really puts things into perspective ... it would make me think twice, that I can actually buy 11 CD's and 6 concert tickets ... that's a lot of stuff... "
- "(it) actually crossed my mind when I just started thinking about how much money I actually spent smoking and how many (cigarettes) I actually smoke. It made me start thinking maybe I should start quitting 'cause then I started thinking how many years have I been smoking ... quite a number ... it actually makes you think... "
- "It actually makes you think ... about how much money I've spent on smoking I could have paid off a car, probably bought a house almost. Like it does eat away at your money and it does make you think."

CyberIsle meets teen health information needs:

"Yes ... because instead of going to their family doctor, or something it's another thing ... not being humiliated or anything or being conscious of oneself so it's better just to go on to this (CyberIsle) and get information off the Net. "

Teens felt CyberIsle was a better way to learn compared to school health classes:

- "...here (in CyberIsle) it's anonymous so it's better I think"
- "you can look at something rather than being seen ... (you can) conceal yourself .. cause you probably feel embarrassed"
- "when you want to find out something, you don't want to ask the teacher because



everyone will (ask) why do you want to know that. So when you go into CyberIsle you can read .. what you want to know about ... you can be embarrassed at school."

Teens like the anonymity of Hot Talk:

"... if you can't talk to one of your friends or a parent ... and you don't really know who you're talking to sometimes it's better that way 'cause you just say what you feel.. you can compare your thoughts with somebody else... if they have something to say then they'll talk back to you and it could help you.

"It's really good. I think it's good way to get your point across to other people."

Thematic analysis of Hot Talk - Ongoing

Preliminary qualitative analysis of Hot Talk has been conducted. Eight discussion topics are currently active in Hot Talk (Smoking, Relationships, Drugs, Parents, School, Weight, Music and Sex) with several sub topics and conversations developed by teens in each topic area. The following is a few examples of current discussions:

Butt Out - smoking discussion:

"What is it with smoking? Personally I think it is totally disgusting. I don't see one positive thing about being smelly, having yellow fingers & teeth, and dying of cancer or any other related disease. Then again it makes you look ssooooooo... cool!

"As a smoker I see it differently. We are all going to die at sometime or another. I just choose to light up. Everyone has a right to their own opinion.

What do you do and what do you think? - Drug discussion

"smoking is the best drugs are the best. I laugh at all you people"

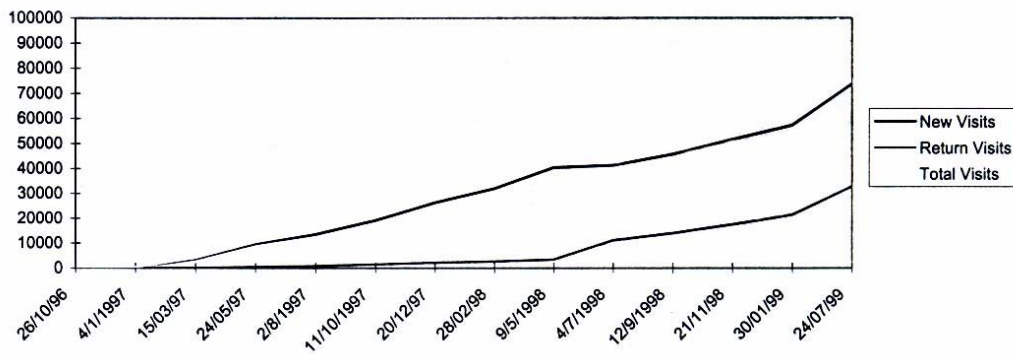
"I respect your right to your opinion, but didn't you think before you wrote. Smoking and drugs don't have to be bad things but your message just furthers the stereotype of the ignorant drug addict without a brain. Get a clue!"

I feel like tearing out my spleen cause I'm a teen - depression & suicide discussions

"Do you just h8 life and want to die? Are you hi on drugs? Do you hang around with

Quantitative Results

As of April 2000 there have been over 250,000 visits to CyberIsle



- 66% are female, 34% are male
- Average age of users is 15.6 years old
- Most visited place: HotTalk (peer discussion groups)
- Registered visitors spend an average of 13.10 minutes per visit to CyberIsle.
- Visitors have come from: Canada, USA, Australia, Bahamas, Estonia, Kuwait, Poland, Thailand, Iceland, Israel, etc.



lowlives? Do you have no friends? Have you ever slit your wrist? Please write about it here, coz I h8 life too, Good Luck!!! "

"All of you listen up! I used to hate my life to. Then I had Cancer. Trust me, the only time that you realise how precious life is when it is threatened. I fought for my life and survived. I still have problems but hey, who doesn't !-email me if ya need any more advice and please consider what I said. "

" I can relate. I'm a 17f who hates her body, fights with her family, and has thought about suicide a lot. But, if you really think about it, what's the point? What will you prove? ... You can't win, at least when you're alive, you can learn and control aspects of what happens to you... Get some professional help, if at all possible, or check out another Website, www.teenadvice.org to talk with teen operators.

Street-Involved Youth: Prospects of using the web for health promotion:

In April 1998, TeenNet explored the possibility of using the web for drug education with street-involved and low socioeconomic youth. Street-involved or street-connected youth refers to people under the age of 25 who participate in street life. Many are homeless, but some may live in shelters, hostels, with friends or relatives and some may still live a home, but all participate in street life.

Twenty youth (13 female, 5 male, 2 transgender) who attended Shout Clinic (a downtown Toronto clinic which provides comprehensive health services to street-involved youth) were interviewed for approximately 15 minutes and asked questions related to: what drugs they take (both medical and recreational), what specific information they want to know about those drugs, where they currently obtain drug information, and questions related to Internet usage. Even though this was a small sample, the study showed a willingness to use the Internet for accessing drug information:

- 95% of youth were currently receiving drug information
- 70% disliked the information they received
- 90% were willing to use the Internet for accessing drug information
- 75% currently had Internet access

through friends, caf6s, schools, home, and public libraries, etc.

- 41 % of those with access used the Internet 2 to 3 times per week

Funding

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Project Investigators

Harvey Skinner Ph.D.
Irv Rootman Ph.D.
Eudice Goldberg MD
David Kom, MD
Blake Poland Ph.D.
Larry Hershfield Ph.D.

Project Staff

Oonagh Maley, TeenNet Project Coordinatoor
Shawn Chirrey, CHN Youth Affiliate Coordinator
Louise Smith, TeenNet Research Assistant
Sherry Biscope, Youth and Technology Project Coordinator
Cameron Norman, PhD Candidate
Mabel Soo, Youth Web Designer
Charlotte Lombardo, Masters Candidate
Asma Khanam, Co-Op Student (High School)

For More Information

Harvey A. Skinner, Ph.D.
Professor and Chair
Department of Public Health Sciences
University of Toronto
Toronto, Ontario M5S 1A8
Telephone (416) 978-8989



Meeting nutritional needs during adolescence

Dr. Elisabeth Rousseau, Hôpital Ste-Justine

Children and youth represent about 25% of the total population in Canada. Even though Canada is described by the United Nations as being one of the most developed societies of the 20th century, the last decade has been marked by striking family disorganization and economic crisis. It has been estimated that about one fifth of Canadian children and adolescents live below the "poverty line"¹ and are consequently at greater risk for school failure and dropout^{2,3,4} and more prone to health-related problems, as well as dietary inadequacies^{5,6}. However there is an increased interest in health and nutrition. This has led to an increase in media coverage, but unfortunately not all information is accurate and the result is confusion.

Adolescence is a period of rapid physical growth, requiring adequate nutrient intake to meet growth requirements. It is also a period of emotional and psychological change, sometimes of rebellion during which there is tendency among other things to reject conventional dietary habits. As a result adolescents do not always meet their nutrient needs⁷ and may have specific nutritional problems. Many adolescents already possess risk factors for chronic diseases. Increasing attention has focused on this age group for reducing high risk behaviors, preventing future health problems, many of them having their roots in early age. With these concerns in mind, the Canadian Paediatric Society's Nutrition Committee has reviewed the previous statement published in 1983⁸ and what is presently known about normal requirements^{9,10} obesity, the nutrient requirements of adolescents involved in sport, the needs of pregnant teenagers, and, finally, fast food, food fads and nutrition education.

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1. Normal nutritional requirements

Physical growth and nutrition are intimately related. Optimal nutrition is imperative for achieving full growth potential¹. Failure to consume an adequate diet (quantitatively and/or qualitatively) can result in delayed sexual maturation and can slow or arrest linear growth. At this time body composition diverges between males and females, explaining the difference in requirements and performance². The greater amounts of skeletal and lean body mass combined with a longer duration of growth explain the male's greater nutrient needs. On the contrary, girls deposit more subcutaneous fat, so that by the end of adolescence females have about twice the percentage of body fat, but only two thirds of lean tissue as that of their male counterparts. During puberty, total nutrient needs are higher than at any other time of life. Recommended Nutrient Intakes for 10 - to 24-year-old Canadians are provided in Tables I and II.

Energy needs for individual adolescents vary according to sex, age, body size, pubertal development, and physical activity. It is important to appreciate that the recommended nutrient intakes for energy are set as means for the particular groups. Since individuals may vary by approximately 30% above or below the mean, caution must be employed in using the recommendations to determine an individual's energy needs.

Studies of actual energy intakes have shown wide ranges for any given age, but are more related to physiological development than to chronological age. During adolescence³, girls appear to consume their peak caloric intake, about 2550 kcal (10710 kJ) at the time of menarche (around 12 years). This peak demand is followed by a slow decline. In boys (beginning approximately 2 years later than in girls) the caloric intake appears to parallel the adolescent growth spurt, increasing until age 16 years to approximately 3400 kcal (14280 kJ) and then decreasing by 500 kcal (2100 kJ) by age 19 years.

Proteins, lipids, carbohydrates.

Patterns of *protein*⁴ intake mirror those of energy, especially for males being generally higher between 16-19 years old. Protein constitutes 12% to 14% of the total energy intake in typical

North American adolescents. The recommended intakes, however, are lower and constitute 6% to 8% of total energy needs (Tables I and II). Thus, Canadian adolescents who eat a mixed balanced diet will meet or exceed their protein requirements, provided they ingest enough to meet their energy needs. Inadequate total energy intake despite adequate protein intake may arise during efforts at weight reduction; it results in decreased nitrogen retention and may therefore cause suboptimal growth. Attempts at weight reduction by dietary restriction are therefore contraindicated during the rapid growth spurt of adolescence.

Patterns of *fat*^{4,5} intake reveal that the typical adolescent diet contains excess dietary fat, with approximately 37% calories obtained from fat, 13% of which is saturated fat. Changes in serum lipid levels in the adolescent male are considered to be a significant risk factor for adult hyperlipidemia. Serum high density lipoprotein (HDL) levels decrease in boys yet remain constant for girls⁶. Some adolescents severely limit their fat intake leading to inadequate energy consumption. Females are more likely to meet cholesterol recommendations than males. Thus the Canadian recommendations state⁷ that the fat content of the diet should be reduced to 30% of total energy and the intake of saturated fat should not exceed 10%.

Dietary guidelines also recommend that more than 55% of calories should be derived from *carbohydrates* (CHO) with emphasis on foods rich in complex carbohydrate and fiber derived from grains, fruits and vegetables. The typical adolescent dietary patterns^{4,5} reveals few of these foods⁸, but is relatively high in simple sugars (soft drinks, candies, flavorings added to milk...). Increased intake of CHO, reduced fat consumption and moderation of portion size will help adolescents achieve dietary guidelines.

Vitamins⁵

The requirement for most vitamins rise markedly during the growth spurt of adolescents. The rapid rate of skeletal growth demands more vitamin D, A, C and E required for the new cells. The increased tissue synthesis demands more vitamin B₁₂ and folate required for DNA and



RNA metabolism. Strict vegetarians (vegans) are at risk for B₁₂ deficiency.

Many teenage girls take oral contraceptives. These may increase their need for several nutrients (e.g., vitamin B₆ and folate)⁸ their absorption being impaired by the oral contraceptive. Normally, these nutrients are present in sufficient quantities in a balanced diet that includes milk products, meat, poultry, fish, vegetables and fruits. Adolescent girls who are taking oral contraceptives should be counseled to pay attention to their diet, to avoid skipping meals and to take a balanced variety of food.

To meet the increased energy needs of adolescence more thiamin, riboflavin and niacin are required to promote the release of energy from CHO, fat and protein.

Minerals⁵

Because of the adolescent growth spurt the need for three minerals (calcium, iron, zinc) is of particular importance.

Calcium: Calcium requirements increase with the rapid growth of adolescence and the increase in the size of the skeleton. During peak growth the amount of calcium deposited in the skeleton rises to 200 mg/d in girls and 300 mg/d boys. The efficiency of calcium absorption increases with requirement and bears an inverse relation to intake: the lower the intake, the more efficient the

absorption. Dietary requirements during adolescent growth will thus be influenced by the efficiency of absorption and the pre-existent state of the skeleton. In the event of long-term sub optimal calcium nutrition, calcium deficiency may arise during pubertal growth. The current Recommended Nutrient Intakes (RNI) should be between 700 to 1,100 mg for adolescents⁹. However some authors have proposed a higher level of daily calcium intake (1500 mg) in order to prevent any risk of osteoporosis later in life¹⁰⁻¹¹. Calcium intake tends to be low in adolescents diets especially in girls¹²⁻¹³. Advertising campaigns encouraging milk consumption have had positive repercussions mainly among boys. Foods rich in calcium include milk products, bones of canned sardines and salmon and certain deep green vegetables. Canada's Food Guide to Healthy Eating¹⁴ recommends 3-4 servings of milk products per day for preadolescents and adolescents 10-16 years of age per day.

Iron: There is an increased need for iron in both males and females during adolescence; in males because of the increase in muscular mass and the expansion of blood volume, especially during the peak growth, and in females due to growth, menstrual losses and sometimes decreased food intake. Iron absorption is influenced by many factors, including age, iron status, state of health and the chemical form of iron ingested. The bioavail-

Table I - Recommended Nutrient Intakes

Age	Sex	Weight kg	Energy kcal	Protein g	n=3 PUFA ^a g	n=6 PUFA g	Ca mg	Ph mg	Iron mg	I Zinc mg
10-12	M	34	2500	34	1.4	8	900	700	8	9
	F	36	2200	36	1.2	7	1100	800	8	9
13-15	M	50	2800	49	1.5	9	1100	900	10	12
	F	48	2200	46	1.2	7	1000	850	13	9
16-18	M	62	3200	58	1.8	11	900	1000	10	12
	F	53	2100	47	1.2	7	700	850	12	9
19-24	M	71	3000	61	1.6	10	800	1000	9	12
	F	58	2100	50	1.2	7	700	850	13	9
Pregnancy (additional)										
1st Trimester			100	5	0.05	0.3	500	200	0	6
2nd Trimester			300	20	0.16	0.9	500	200	5	6
3rd Trimester			300	24	0.16	0.9	500	200	10	6
Lactation (additional)			450	20	0.25	1.5	500	200	0	6

a. PUFA, polyunsaturated fatty acids

Reprinted from Health and Welfare Canada. Nutrition Recommendations. The Report of the Scientific Review Committee. Ottawa 1990.

Table II. Recommended Nutrient Intakes

Age	Sex	Thiamin mg	Riboflavin mg	Niacin NE ^c	Vit A RE ^a	Vit D mg	Vit E mg	Vit C mg mg	Folate mg	Vit B ₁₂
10-12	M	1.0	1.3	18	800	2.5	8	25	1	1.0
	F	0.9	1.1	16	800	2.5	7	25	1	1.0
13-15	M	1.1	1.4	20	900	2.5	9	30 ^b	175	1.0
	F	0.9	1.1	16	800	2.5	7	30 ^b	170	1.0
16-18	M	1.3	1.6	23	1000	2.5	10	40 ^b	220	1.0
	F	0.8	1.1	15	800	2.5	7	30 ^b	190	1.0
19-24	M	1.2	1.5	22	1000	2.5	10	40 ^b	220	1.0
	F	0.8	1.1	15	800	2.5	7	30 ^b	180	1.0
Pregnancy (additional)										
1st Trimester		0.1	0.1	1	0	2.5	2	0	400*	0.2
2nd Trimester		0.1	0.3	2	0	2.5	2	10	400*	0.2
3rd Trimester		0.1	0.3	2	0	2.5	2	10	200	0.2
Lactation (additional)		0.2	0.4	3	400	2.5	3	25	100	0.2

- a. Retinol Equivalents
- b. Smokers should increase vit C by 50%
- c. Niacin Equivalents

Reprinted from Health and Welfare Canada. Nutrition Recommendations. The Report of the Scientific Review Committee. Ottawa 1990.

* Canadian Task force on the Periodic Health Examination. 1994 update: 3. Primary and secondary prevention of neural tube defects. CMAJ, 151 (2): 159-167, 1994.

ability of heme-iron found in meat, fish and poultry is particularly high (ranging from 23% to 35%), depending upon iron stores. Less non-heme-iron is absorbed (2% to 20%) depending upon the iron status of the individual. It can be increased by vitamin C and decreased by tannic acid (present in tea), phytates (present in vegetables), calcium and phosphate salts, and antacids.

About two decades ago the Nutrition Canada Survey¹⁵ showed that, although the prevalence of anemia in teenagers was very low, 25% of girls had low iron stores. This is particularly true for lower socioeconomic groups and pregnant teenagers. The mean daily iron intake of females aged 12 to 19 years was 11 mg. Recommended Nutrient Intake (RNI) for teenage girls is 13 mg of iron per day. The Canadian mixed diet contains 5 to 6 mg of iron per 1000 kcal (1.2 to 1.4 mg/1000 kJ). Thus, the average daily energy intake of adolescent females (only 2243 kcal) is marginal in iron¹⁶. Adolescent girls should therefore eat foods rich in iron, including red meats,

green vegetables and iron-enriched cereals. A good dietary habit for adolescents would be to eat a breakfast that included a fortified cereal (providing 4 mg of iron per serving) and a serving of fruit or juice rich in vitamin C. Pregnant adolescents require iron supplementation to meet their iron requirements.

Zinc¹⁷: Adolescents undergoing rapid growth or pregnant teenagers are at risk of zinc deficiency. Good sources of zinc include meat, eggs, milk, seafood, leafy and root vegetables, all found in a balanced mixed diet.

Conclusion

The nutrient requirements during adolescence are directly related to the phase of growth and sexual maturation. In addition to these factors, individual requirements will vary greatly according to the level of activity and body configuration. Standardized dietary recommendations, such as those given according to age, should therefore be cautiously interpreted when one is dealing with



individual children.

Canada's Guidelines for Healthy Eating¹⁴ provide recommendations to adolescents for promoting health and diminishing risk of chronic diseases, such as heart disease, stroke, diabetes mellitus, osteoporosis and some types of cancer:

1. Enjoy a VARIETY of foods.
2. Emphasize cereals, breads, other grain products (6-11 servings per day), vegetables (3-5 servings per day) and fruit (2-4 servings per day).
3. Choose dairy products (3-4 serving per day), leaner meats (2-3 servings per day) and foods prepared with little or no fat.
4. Achieve and maintain a healthy body weight by enjoying regular physical activity and healthy eating.
5. Limit salt, alcohol and caffeine.

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2. Obesity

Obesity is a chronic disease and represents one of the most common nutritional disorders affecting North American adolescents¹⁻²⁻³⁻⁴. It may interfere with the development of a satisfying self-image (low self-esteem sometimes precedes the onset of obesity) and social status, and with normal psychological development. Some obese adolescents have difficulties being accepted by their peers, their superiors and even their parents. This rejection may well lead to a negative body image, low self-esteem and even serious psychological illness⁵⁻⁶⁻⁷. Often these psychological problems lie not only with the adolescents but also within the family⁸.

From a pathophysiologic view point, heredity most often plays a predominant etiologic role⁹⁻¹⁰⁻¹¹⁻¹²⁻¹³. This genetic predisposition may be reinforced through certain characteristics of the environment in which adolescents are raised. Among the risk factors linked to the environment¹⁴⁻¹⁵⁻¹⁶⁻¹⁷, are:

- 1) cultural and ethnic traditions.
- 2) underprivileged socio-economic class¹⁷.
- 3) living in a rural area.
- 4) elderly parents.
- 5) being a single child.
- 6) extended periods of immobilization.
- 7) excessive television watching with low physical activity.

Apart from the psychological consequences obesity in adolescence predisposes the individual to more serious physical disabilities in adult life¹⁸⁻¹⁹⁻²⁰⁻²¹⁻²²⁻²³. Very obese adults are at a higher risk of death and have a greater predisposition to diabetes, hyperlipidemia, cerebrovascular and renal disease, hypertension, cholecystitis and orthopedic disease than do non obese individuals. In addition, obese individuals have greater obstetric and surgical risks, and their postoperative course may be complicated by pulmonary and vascular disease.

Prevalence

Because no standard definition exists at present²⁴, it is estimated that from 5% to 20% of adolescents are obese. The prevalence of chil-

dren obesity is increasing in some countries like US and Canada²⁵⁻²⁶. The prevalence varies inversely with social class, between sexes and with age. However, accurate figures are hard to obtain, partly because of the lack of a suitable, universally employed standard for measuring obesity. A number of measures are used to assess the frequency of obesity, but for the most part they are based on weight, height or a combination of these measures, with or without correction for sex and age. Early identification of inappropriate increase in weight for height is important for the clinician.

A more reliable technique, but one less commonly used in clinical practice, is to estimate the proportion of body fat by measurement of skin fold thickness²⁷. Because body composition changes rapidly during childhood and adolescence, it is particularly important to use measures that reflect the proportion of body fat.

Many diagnostic criteria have been suggested²⁸. The simplest consists of saying that a person is obese when his weight reaches or passes 120% of his ideal weight, or when weight exceeds the 97th percentile on a growth chart. However, some adolescents have a bulkier skeleton and can be wrongly considered obese; for them, it is best to measure skin folds with a skin fold caliper.

A triceps skin fold greater than 18 mm in a male adolescent or 25 mm in a female adolescent is consistent with obesity. In practice, the clinician may simply examine the height-weight relationship by performing successively the following steps.

- complete the statural and ponderal curves to estimate the dynamic evolution of obesity.
- determine the ideal ("healthy") weight for height²⁹:

Step 1: Plot the patient's height (length) on the growth chart and determine the height centile.

Step 2: Determine the ideal weight-for-height. Calculate weight on



the same centile as that for height, age and gender.

Step 3: Express actual weight as a percent of ideal weight-for-height: (actual weight/ideal weight-for-height) x 100.

- calculate the ponderal excess, or ponderosity, by subtracting the ideal (or "healthy") weight from the actual weight.

The healthy weight range defined for adults by Health Canada based upon the Body mass index (BMI- or Quetelet index) using the ratio of body weight (kg) to the square of the height (m) does not accurately reflect obesity in adolescence³⁰.

Etiologic factors

More than 95% of obesity is "exogenous" (or primary form) in which no intrinsic cause can be found. They appear because there is imbalance between food consumption and energy expenditure³¹⁻³²⁻³³. In light of double-labeled water method and energy expenditure studies, it is apparent that the obese individual eats more than is needed³⁴⁻³⁵.

On average obese male adolescents ingest 16% more energy than required and females 38% more energy. A 2% difference in energy intake over a period of 10 years can result in an accumulation of an extra 20 kg of body fat³⁶. It follows that obesity is associated with a problem of the regulation of energy intake where the obese patient overeats and has difficulty reducing his eating to an energy level which is appropriate for energy expenditure. Exogenous to obesity increases the rate of statural growth, bone maturation and puberty development.

Less than 5% of obesity is "endogenous"³⁷⁻³⁸ (or secondary form), it results from a genetic syndrome or from an endocrine or neurologic disease. Obesity is part of syndromes such as Prader-Willi, Bardet-Biedl (Laurence-Moon-Biedl), Cohen syndrome and others. Endocrine diseases accompanied by obesity are mainly Cushing's syndrome hypothyroidism and some hypothalamic dysfunctions. For teenage girls, the combination of obesity, hirsutism and amenorrhea is characteristic of the Stein-Leventhal syndrome (polycystic ovaries).

In all cases of exogenous obesity, the "final common pathway" leading to obesity is an energy intake greater than energy expenditure for an extended period. Two important mechanisms that can alter energy intake and expenditure are heredity and lifestyle.

From studies of adopted children⁹⁻¹⁰⁻¹¹⁻¹² it is apparent that obesity is hereditary, in that adopted children correlate better with their biologic rather than their adoptive parents, but the degree of heritability is variable. There are also environmental and familial influences that may lead to obesity. Two potential genetically mediated mechanisms that may lead to obesity are an excessive growth of adipose cells at vulnerable times of body growth³⁹ and an altered mode of use of energy sources by the body³⁶.

Environment also influences energy intake and expenditure, largely via factors such as cultural habits, family structure, the parents' knowledge about food and their attitudes toward food and their child, and the psychological and socio-economic environment.

Current evidence suggests that most fat infants become normal-weight children, but that many fat children and adolescents were fat infants³⁹. There are much stronger relations between obesity in the late preschool years and in adolescence and also between obesity in adolescence and in adulthood.

Obese adolescents often exhibit the following behavior: eating fast, skipping breakfast and lunch, eating heavily at night, eating when not hungry but when food is available, eating when depressed or anxious, eating during other activities such as television watching.

Inactivity is a common finding in many studies of obese subjects⁴⁰⁻⁴¹. Television is a prominent feature of North American life⁷. Canadian children watch 14 to 22 hours of television weekly⁴²⁻⁴³. To what degree does this play a role in the genesis of obesity⁴⁴⁻⁴⁵⁻⁴⁶? Different explanations are proposed: the sedentary nature of the activity itself and the consumption of high energy, low nutrient foods while viewing TV, or conversely inactive children are more prone to watch TV.



Treatment

The therapy for obesity is singularly frustrating and is extremely difficult at any age. This is partly because it is often not only the teenager, but the whole family that needs to be treated and because the problem is not just "overweight" but a host of psychological and social problems. The most successful results will be found in the adolescent who wants to lose weight and whose family is willing to change its lifestyle and attitudes in order to help him or her (and often themselves too)⁸⁻⁴⁷. However, it is the adolescent who must face the fact that this disorder requires his or her active cooperation for a successful outcome. Despite all the forms of support from family and others it is the individual who must actually lose the weight. Clinical experience shows that some adolescents and their families are unable to cooperate with the treatment team. In this group it is perhaps best to avoid additional pressure, the obese having already poor self-esteem and being more vulnerable to the feeling of failure.

It requires a dedicated team to provide support and guidance to the obese adolescent. The composition of the team will vary, depending on the facilities available, but it must consist of individuals who are patient, non judgmental, knowledgeable about obesity and human relationships, and want to help the obese lose weight. The patient should realize that there is going to have to be a life-long change in lifestyle and accept the fact that weight loss will not necessarily be dramatic, that there will be "backsliding" at times⁴⁸ and that it may take an extended period for the desired goal to be achieved.

The basic aim of all the methods of treatment is to induce a negative energy balance⁴⁹. The methods include partial restriction of intake²⁸⁻³⁷⁻³⁸⁻⁵⁰. The dietetic prescription must be precise; a dietitian's involvement is essential. Excessive fasting is dangerous and therefore should be avoided⁵¹⁻⁵². Weight loss must be slow and gradual. It takes about 1 1/2 years of weight maintenance to achieve ideal body weight for each 20% increment in excess of ideal. For the growing teenager, maintaining a steady weight for a period of time (i.e. 6 months, one year) with a balanced diet could

be a realistic goal. Energy from fat should not exceed 30%, that from carbohydrates could reach approximately 55% and 15% that from proteins. Daily energy requirements should be calculated, even for fast foods (Table I page 33). For adolescents, whose energy requirements average 2200 kcal (9240 kJ) for girls and 2500 kcal (10500 kJ) for boys, the limit will per 24 hours for girls, 1500 kcal (6500 kJ), 1800 kcal (7500 kJ) for boys per 24 hours. Qualitatively, low-calorie foods and a high intake of fruits, vegetables and grains should be emphasized. There should be a sufficient protein intake. The use of semi total starvation, anorectic drugs⁵³, are contraindicated. The protein-sparing diets are used experimentally as part of an integrated multidisciplinary treatment for obesity⁵⁴.

It is the health professional's role to warn teenagers about the dangers of "miracle diets". Not only can they be dangerous for their health, but they lack long-term teaching of healthy dietary habits, and inevitably fail. The weight increase which follows is greater than before ("yo-yo" phenomenon) causing a loss of self-esteem and a reluctance to try other therapeutic propositions.

It is important to set some realistic weight loss limits for the overweight adolescent, e.g. about 1/2 -1 lb/week (or ³ 1 kg every 2 weeks). It must also be done with tact in order not to provoke, in the cases of fragile personalities, overly restrictive behaviors such as anorexia nervosa⁵⁵.

The key feature of any program of treatment of obesity is the need for lifestyle change. Programs that are targeted at both the parents and the adolescents are the most successful in the long run. In most behavioral weight-control programs⁵⁶, the sessions focus on facilitating adherence to dietary and exercise regimens. This approach has been shown to be most helpful for mildly to moderately obese. The energy imbalance that results in obesity has components of under exercising as well as overeating. Thus increased physical activity⁵⁷⁻⁵⁸ that is introduced as part of a program of lifestyle changes should be an integral part of any treatment program⁵⁹. When the objective is to treat obesity, the prescription should ideally comprise at least 3 or 4 times weekly exercise sessions (e.g. 45 minutes or more of



non-stop moderate aerobic activity)⁶⁰. A regular program of dynamic exercise consumer fat and improves fitness⁶¹.

Teenagers and their parents must be referred to a dietitian for dietary advice and follow up. Healthy eating habits must be encouraged over strict diets. In this, parents must be role models.

Prevention

Clearly, prevention of adolescent obesity is desirable since cure is so difficult. Studies of the etiologic factors in adolescent obesity and of the condition's natural history have suggested that obesity starting at age 5 or 6 years is more likely to persist into adolescence and adulthood than that occurring in infancy. The most important risk factor is heredity. If both parents are not obese, there is only a 10% risk of their child being overweight. It is 45% if one of the parents is obese, and 75% if both parents are. Moreover, there is at least 75% chance that an obese adolescent will remain so as an adult. The general practitioner and the pediatrician must identify the patients most susceptible to becoming obese; the main risk factor of obesity is the parents. During routine check-up, they must also identify very early any excessive weight gain tendency.

Considering the low success rate of the various forms of treatment (less than 10%), only prevention is effective. At a very early age⁶², it is important for the family to:

1. respect normal appetite variations and avoid overly strict rules which may result in frustration and reactional voracity. Never use food to punish or reward.
2. enjoy a variety of foods.
3. emphasize foods rich in fibers, cereals, breads, other grain products, vegetables and fruits.
4. chose lower-fat diary products, leaner meats and foods prepared with little or no fat.
5. discourage the consumption of "empty calories", sweet drinks etc...
6. limit salt.
7. encourage physical exercise from early age, achieve and maintain a healthy body weight by enjoying regular physical activity⁶³.
8. reduce time spent watching television⁶⁴.

The anticipatory guidance provided by health

professionals, should include advice on good nutrition, giving practical examples such as substitutes for breakfast (yogurts, fruits...)⁶⁵, as well as emphasizing the importance of eating three meals a day. The young person's misconception that skipping a meal helps to lose weight will have to be demystified. It actually results in the opposite effect, a overeating later in the day and at night.

Conclusion

A multidisciplinary approach that includes counseling the whole family, behavior and lifestyle modification (with emphasis on developing self-esteem), and exercise in addition to dietary management has the best chance of success.

Health professionals including pediatricians, general practitioners, dietitians sometimes teacher⁶⁶ should promote healthy dietary habits and regular physical activity more aggressively in the community to reduce the risks of future chronic disease. They should work with the broadcast industry to sensitize them about key nutritional issues and their impact on teenagers and to encourage the inclusion of healthy eating messages into programming⁶⁷.

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3. Sports and diet

Consideration of the nutritional needs of an adolescent athlete must take into account not only the requirements for normal growth but also the increased requirements for exercise¹ (Table I).

The dietary practices of young athletes often fail to meet the energy requirements, threatening their well-being. Furthermore, misconceptions about nutrition are common especially regarding the need for supplements to optimize performance, weight control and training diet. The diet prescriptions to support optimal performance are as varied as the youth and the activities they engage in.

Protein and energy requirements²⁻³⁻⁴

The physical training involved in participation in a sport results in an increase in muscle mass. It has been reasoned that an increased protein intake is necessary to synthesize the additional protein for this increased muscle mass⁵. It has been suggested that young athletes who are engaged in endurance and resistance training such as bodybuilders or power lifters have protein intakes three to four times the Canadian Recommended Nutrient Intakes (RNI). Such intakes from protein supplements are not only costly, but may theoretically have long-term effects on calcium excretion and kidney function⁶. Protein requirements for adolescent boys are slightly

higher than those for young men, a daily intake of 1.3 to 1.5 g/kg of high-quality animal protein should be sufficient to meet the needs of a young adolescent, male or female, in training especially for endurance and strength exercises⁷. In a balanced, mixed diet the protein content accounts for approximately 15% of the total energy intake⁸, with a ratio of animal protein to vegetable protein of 1, to ensure optimal aminoacid requirements.

The energy requirements during adolescence vary from 73 kcal/kg (281 kJ/kg) in a 12-year-old male to 36 kcal/kg (168 kJ/kg) in a 19-year-old female (table I page 5). Depending on the level of activity, adolescents participating in sports may require an additional 600 to 1200 kcal/d (about 2500 to 5000 kJ/d)⁸⁻⁹. Energy expenditure for a variety of physical activities is shown in Table II. Assuming a balanced mixed diet is taken, according to the Canada's Food Guide to Healthy Eating, i.e. 60% from carbohydrate, 15% from protein and 30% from fats, the additional energy intake would add 22 to 45g of protein daily. Clearly, athletes involved in moderate or heavy physical activity who have a balanced diet usually consume more than 2g of protein/kg daily. Therefore, protein supplements are unnecessary.¹⁰ Nevertheless, special attention is required for athletes who consume low energy diets (such as ballet dancers, gymnasts, synchro swim-

Table I. Average Energy Allowances* of adolescents based on Age, Weight and Level of Physical Activity.

Age (years) and sex	Activity Level	
	Moderate	Heavy
10 both	57	70 86
11-14M	44	55 66
15-18M	37	46 55
11-14F	37	48 57
15-18F	33	40 48

* Kilo calories per kilo of body weight/day.

Adapted from Recommended Dietary Allowances, 1989 by the National Academy of Sciences, National Academy Press, Washington, DC.



Table II - Energy expenditure for various physical activities*

Energy expenditure (kcal/min)		
Activity	Men	women
In bed, asleep or resting	1.08	0.90
Sitting quietly	1.39	1.15
Standing quietly	1.75	1.37
Walking at a speed of 3 mph	3.7	3.0
Recreational		
. Light (billiards, bowling, golf, sailing)	2.5-5.0	2.0-4.0
. Moderate (canoeing, dancing, horse-riding, swimming, gymnastics, tennis, biking, roller-blading, skiing, skating)	5.0-7.5	4.0-6.0
. Heavy (athletics, football, hockey)	≥ 7.5	≥ 6.0

* adapted from Mc Ardle, W.D., Katch, F.I., and Katch, V.L. Exercise physiology: Energy, nutrition and human performance. 2nd edition. Leo and Febinger, Philadelphia, 1986.

Energy sources^{2,3,4,10,11}

The two principal fuels used by the body are fat and carbohydrate (CHO)¹². Both are efficiently used, although glycogen appears to be preferentially used over fat in short-term and high intensity activities such as sprinting. Because the body's CHO stores are limited as liver and muscle glycogen, whereas fat stores are almost unlimited in terms of fuel for exercise, a relatively high CHO intake is needed to replace CHO used during daily training. Individuals have tried to increase the glycogen content of muscle by a high-carbohydrate (CHO) diet or by a procedure known as "carbohydrate loading"^{11,13-14}. This procedure is not currently recommended because it may lead to gastrointestinal distress, myoglobinuria, electrolytes imbalance, water retention and ECG abnormalities. But in certain conditions young athletes will consume 60-70% energy from CHO for endurance events lasting

more than 2 hours (long distance running or cycling). Dietary carbohydrates comprise both simple sugars and complex carbohydrates such as those found in starchy and high fibre foods. The latter produce a slower and more sustained rise in blood glucose than do simple sugars. Simple CHO supplements such as sucrose in the form of candy or pop, glucose, fructose or glucose polymers are often consumed during meal or snacking before a prolonged event and may be beneficial in sparing muscle glycogen and repleting CHO stores. In endurance sports free fatty acids (FFA) are an important fuel for muscles, but it is not necessary to provide fat supplementation, risking excess of adipose tissue. On balance it seems that athletes perform well with normal mixed diets. It may be more difficult to meet energy needs with vegetarian diet which tend to be so high in bulk that they may not meet energy needs¹⁵.



Weight control and appetite stimulants

Athletes of all kinds have increased energy expenditure as a consequence of their increased physical activity. Some athletes, particularly females involved in gymnastics and ballet, request dietary advice to enable them to maintain a normal growth velocity and their low weight¹⁶⁻²⁰. The key issue is body fat²¹. In the well trained male athlete the amount of body fat can be reduced to approximately 5% of body weight. If a further effort is made to reduce weight it will result in the loss of muscle tissue and thus reduce the physical performance of the athlete. Some teens have a distorted body image and will train in quest of a weight that is unnatural for them rather than for health or the benefit of performance. The best way for athletes to reduce their amount of body fat is not through reducing their energy intake but through working at 70% of their MVO₂= maximum oxygen consumption (i.e. moderate intensity training for prolonged periods). The increased physical activity will have two beneficial effects: it will improve their physical condition, and at the same time it will reduce their amount of body fat. The female athlete who restricts energy intake may delay puberty or induce amenorrhea²²⁻²³. The impact of amenorrhea on the risk of osteoporosis (increased incidence of fracture in young women gymnasts or dancers) is such that it should be prevented²⁴. Menstruation recommences after training and there appears to be no adverse effect on fertility²⁵.

At the opposite end of the spectrum are some athletes who request appetite stimulants to help them eat more so that they will gain weight as muscle mass, not fat. Appetite stimulants are not recommended since their effectiveness is doubtful and they have several potentially serious side effects²⁶. A better approach is to increase total dietary energy (ie 500 to 1000 extra calories) for a balanced diet: 55-60% carbohydrates (48% of CHO in the form of complex CHO and refined CHO not more than 12% of calories), 25-30% lipids, 10-15% proteins and the athlete distributes the daily energy intake over four to six meals. Modern lifestyles often make this difficult, but it is the most satisfactory way of gaining weight¹⁰.

Vitamin and mineral requirements^{2,3,4,10,27}

There is no evidence that vitamin or mineral supplements are necessary or beneficial for the

athlete with a balanced normal diet. But because some athletes have pressure to control their weight, the levels of several vitamins (B, C, D) can be suboptimal in their diet. Dietitian input will be helpful.

Iron deficiency is a frequent problem²⁸⁻²⁹ with impact on endurance especially in female athletes and also on growth spurt. Encouraging them to eat an iron-rich diet is the first logical step. The next step is to test haemoglobin concentration and serum ferritin (reflexion of iron stores) before giving any iron supplements. At the onset of elite training increased plasma volume may lead to hemodilution and a false anemia.

Calcium needs are at their highest level in adolescence. For some athletes who dislike dairy products, are lactose intolerant or have concern about high calories, which is not a real concern given that lower caloric versions are available (ie skim milk, low fat yogurt etc...), diet counselling or supplementation are necessary.

Water and salt requirements²⁻³⁻⁴

Of primary concern is adequate hydration. Exercise increases the need for water due to sweat and respiratory losses. Athletic training under conditions of extreme heat requires special mention. An untrained, unacclimatized individual produces a great deal of sweat, which results in a loss of water, sodium, potassium and chloride. The principal loss can result in dehydration. Fluid losses often exceed 1L/h or 1% to 2% of the body weight. This can be a serious problem resulting in anorexia, unwillingness or inability to work and extreme lassitude. To prevent these adverse effects, water must be ingested (about 100-150 ml) before, during (every 30 to 60 minutes) and after exercise, more often in hot weather, so that the urine remains dilute (clear and in good volume). Under no circumstances should fluid restriction be used as a way to control body weight, particularly in athletes. Sweat is a hypotonic electrolyte solution, and usually the kidney is able to adapt to conserve electrolytes lost through sweating. Thus, attention should be focused on replacing water losses rather than any electrolyte losses. Additional salt needs to be taken only if 2 to 3L of water is lost during the sporting activity.

It is not recommended for an athlete to take salt pills, since appetite and taste will result in the



ingestion of sufficient salt. Even during a marathon it will rarely be necessary to use salt pills. The principal loss is one of water, which must be replaced.

Drug use³⁰⁻³¹

Over the last decade the use of drugs had increased significantly among adolescents participating in competitive sports, students believing that substances would improve athletic performance. All have harmful effects on health and indirectly on nutritional status. Different drugs are in circulation such as analgesics, cocaine, amphetamines, anabolic steroids³²⁻³³ and, less frequently, erythropoietin, growth hormone, beta blockers, carnitine. Such doping drugs are easily available through peers, coaches and health professionals. The major categories of drugs used to enhance athletic performance are stimulants, pain relievers and steroids. Among them, amphetamines, cocaine and anabolic steroids are banned by the International Olympic Committee (IOC). But the most common ergogenic stimulant to which athletes are exposed is caffeine (in the form of caffeine pills, chocolate, coffee, tea or cola beverages)³⁴. Caffeine increases plasma free fatty acids (FFA), the form of lipids used by muscles as an energy source, thereby increasing FFA oxidation by skeletal muscle and sparing muscle glycogen. But it suppresses antidiuretic hormone deranging the sensation of thirst. The IOC allows an upper limit of 12 mcg/ml of urine tested. A dose of 5 mg/kg or 300 mg (approximately 3 cups of coffee per day) would provide a stimulant effect and yet still be legal according to IOC rules³⁵.

Conclusions

A great number of myths surround the appropriate diet for individuals involved in sports. Some coaches advocate a high meat intake for "body building" or vitamins or appetite stimulants. However, athletes are best advised to have a balanced normal diet³⁶⁻³⁷ relatively generous in carbohydrate, water and iron-rich foods. No supplements are required since the additional nutrients are present in the added food taken to meet energy needs. Individuals wishing to maintain their low body weight should do so by increasing their energy expenditure and not just by reducing their dietary intake³⁸. Athletes performing in a hot environment should pay particular attention to hydration; salt tablets should be

avoided. Harmful ergogenic aids such as caffeine should be avoided.

Health care professionals dealing with adolescents involved in strenuous activities not only must carry out a complete annual examination (weight and height velocity charts being useful monitors of growth), but also give advice about diet, drug use and look for factors predisposing to problems or injuries. They should be particularly cautious about eating disorders in very active young athletes. Essentially, the aim is to promote sports as a recreational and leisure activity³⁹.

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3. Pregnancy and diet

About 6% of all Canadian live births are to mothers less than 20 years old¹. The pregnant teenager may be particularly vulnerable to nutritional stresses. In addition to meeting her own needs for growth and maturation, she must also meet the requirements of pregnancy^{2,3,4,5}. It has been reported that the infants of teenagers are more likely to have a low birth weight⁶ or to die in the perinatal period. Poor prenatal care is the major cause of the increased rate of complications in 15-19 years old⁷. Past studies at the Montreal Diet Dispensary and the Royal Victoria Hospital, Montreal⁸⁻⁹, have suggested that if teenage mothers are counseled as to how to meet their nutrient requirements for protein and energy (i.e. by food supplementation, development of skills to cook, to do food shopping), and if adequate ante natal care is provided, their infants' risks of low birth weight and of perinatal death are comparable to those of infants born to 20 to 30 year old women¹⁰⁻¹¹⁻¹².

Energy and Protein requirements²⁻³⁻⁴

There is little evidence that age modifies the effect of weight gain on fetal growth after controlling for other factors that influence pregnancy outcome (pre pregnancy weight, parity, socio-economic status). Only the very young adolescent (< 2 years post menarche) may be at risk of delivering smaller infants, because there is competition between the mother who is still growing and her fetus. Consequently it is prudent to add more than the estimated requirements to support fetal growth. Early inadequate weight gain may reflect a risk of poor pregnancy outcome. Later on, from 24 weeks to term a low rate of gain (less than 0.4 kg/week) is associated with pre-term delivery.

The available literature on dietary habits¹³⁻¹⁴ reveals that pregnant teenagers have diets similar to their non pregnant peers. The pregnant girls consume more energy, but they frequently neglect the same nutrients as non pregnant adolescents.

King¹⁵ recommended that pregnant adolescents aged 15 to 18 years ingest 1.5g of protein per kilogram of pregnant body weight daily and that younger girls ingest 1.7 to 1.8 g/kg daily. The higher levels for the younger girls take into ac-

count the mother's need for her own growth and development as well as the needs of the fetus. In this study group the mean daily energy intake was 2500 kcal (10 500 kJ) at the start of the pregnancy and increased during latter stages to 2850 kcal (11 970 kJ).

The additional amount of energy required daily during pregnancy is 100 kcal (630 kJ) during the first trimester and 300 kcal (1470 kJ) during the rest of the pregnancy. For the very young it will be 500 kcal/day (3150 kJ). In individuals with a balanced, mixed diet, protein is a fairly constant fraction (approximately 15%) of the total energy intake. Use of formulate protein supplement is not recommended. Therefore, provided the pregnant teenager has such a diet, her increased energy intake will usually ensure an adequate increase in her protein intake. However, studies¹⁶⁻¹⁷ revealed that a significant number of pregnant adolescents fail to achieve these recommended intakes. Although the mean daily nutrient intake of non pregnant females aged 12 to 19 years was estimated as 76 g of protein and 2243 kcal (9420 kJ) of total energy¹⁸ 15% to 25% of the adolescent females surveyed failed to achieve an "adequate" daily intake of protein, defined as 1 g/kg of body weight. These figures were based on recall of 24 hour dietary intake.

Dieting should¹⁹ not be undertaken during pregnancy. Totally vegetarian diets are also not recommended during pregnancy or lactation, because their high fiber content makes it difficult to meet the increased protein and energy needs during pregnancy. The use of dairy products and eggs will overcome this problem.

Mineral and Vitamin requirements^{2,3,4}

The intake of three minerals, iron²⁰ calcium, zinc by pregnant teenagers tends to be lower than the amount recommended.

Surveys done in Canada²¹ showed that about 22% of pregnant adolescent had anemia. It is recommended that a supplement containing 30 to 60 mg of elemental iron be taken daily between meals (with liquids other than milk, tea or coffee), throughout pregnancy; as well, adolescents should be advised to eat foods that are a good source of iron.



The recommended intake of calcium for pregnant women is 1200 mg/d for protection of the maternal skeleton and the enhancing of fetal bone mineralization. Calcium supplements (600 mg/d) will be needed for those who are estimated to have a low intake of this mineral; for example, those who do not have milk or milk products in their diet. Supplemental calcium seems to reduce the risk of preeclampsia and hypertension²²⁻²³.

Pregnant adolescents have very high zinc (Zn) requirements (15 mg/d) to support the developing fetus and to maintain skeletal maturation after menarche²⁴. However, because zinc supplementation studies are not conclusive, routinely supplementation is not recommended²⁵.

With a balanced, mixed diet, it has been shown that the only vitamin supplement which for all adult pregnant women including adolescents is folic acid²⁶.

The recent Canadian task force on the Periodic Health Examination²⁷ recommends that all women of childbearing should be advised to increase their consumption of folic acid through diet or supplementation to 0.4 mg/d, beginning 1 month before pregnancy and ending at the start of the second trimester. There is strong evidence that folate, a vitamin abundantly found in green leafy vegetables and orange juice, help prevent neural tube defects and possibly other birth defects²⁸.

The fact that most teenage pregnancies are unplanned, represents a particular problem as the recommendations are to implement folic acid supplements prior to pregnancy.

Clinical experience suggests that adolescents should take multiple vitamin supplements. Since cigarette smokers use vitamin C at an increased rate, it is recommended that all pregnant women who smoke should consume at least 100 mg of vitamin C daily. In unusual situations (e.g., with strict vegetarian diets) vitamin supplements are essential to prevent abnormalities such as vitamin B₁₂ deficiency (2µg/d)²⁹.

Finally, it should be emphasized that nutritional care is only a part of adequate prenatal care. Optimal outcome of pregnancy is best assured by a complete program of prenatal care that includes particular attention to meeting the individual's nutritional requirements³⁰⁻³¹.

Conclusions

Pregnant teenagers are particularly vulnerable for nutritional problems. They have to ingest sufficient food to provide the nutrients they need for their own growth as well as for optimal fetal growth³²⁻³³⁻³⁴. Adolescent girls tend to have poor dietary patterns: they do not consume enough iron and milk products, and they frequently skip meals. Numerous contributing factors can explain those facts, obsession with body image, concern about gaining weight and poverty playing prominent roles. Some earlier studies showed poor outcomes of pregnancy in teenagers due to poverty; however, it has now been shown that with an adequate diet, containing sufficient protein and energy and frequent assessment, the outcome can be good. Therefore teens should receive dietary guidance as early as possible and throughout their pregnancy.

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Publications

Ressource on HIV Prevention

Below you will find some of the most frequently requested prevention resources on specific populations. These can be obtained or borrowed from the Canadian HIV/AIDS Clearinghouse – (613) 725-3434. (Bold indicates the resource is available in French and English)

- **“Bright red hair... and sliced bread”; models of HIV/AIDS youth programs**

in Canada.

- Sharp shooters: handy health tips for safer injection drug use.
- **First Nations HIV/TB training kit**
- Women at risk: issues in the primary prevention of AIDS.
- **Safe spaces: HIV prevention for gay, lesbian, and bisexual youth.**

From McCreary Centre Society

The McCreary Centre Society has published special reports on several topics, providing additional detail on information in the Adolescent Health Survey. Reports on weight control practices, smoking and ethnicity have been completed, and others are planned for the near future.

The McCreary Centre Society

401 N. Esmond Avenue
Burnaby, BC V5C 1S5
Canada
tel:(604)291-1996
fax: (604)291-7308
e-mail: mcreary@mcs.bc.ca

Lighting up

A detailed report on smoking among BC adolescents shows that, despite prevention efforts, tobacco use remains popular among teens. About 15% of all students aged 12-18 are current cigarette smokers, reporting either daily or frequent smoking. More girls than boys are current smokers. Rates of cigarette smoking vary among geographic areas, with the lowest smoking rates reported in the Vancouver area and the highest rates in the Northwest part of the province. Most students who have ever smoked say they had their first cigarette between the ages of 11 and 14. The

report also looks at exposure to environmental smoke.

Lighting Up: Tobacco Use Among BC Youth recommends increased attention to social factors that influence smoking behaviour. “Given that most young people are already aware of the health risks associated with smoking... smoking education programs for youth may be doomed to ineffectiveness when they do not take into account the social environments of adolescents,” the report notes. “Comprehensive smoking prevention programs targeting youth may need to focus more on developing skills to manage the expectations of others and to enhance open and meaningful communication, thereby creating more supportive home and school environments.”

Understanding Chinese youth

A special report on Chinese youth in BC shows that students from this ethnic group tend to have more favourable attitudes towards school and higher expectations for attending university, and to skip school less often than other students. They are less likely to use drugs, tobacco or alcohol. However, Chinese youth report more racial discrimination, especially outside the Greater Vancouver area.



They also are less likely to seek help for personal problems.

Results of the Chinese youth study are available as a McCreary report, *Silk Road to Health: A Journey to Understanding Chinese Youth in BC*. The report includes a Chinese translation of key findings from the study.

Problem weight practices

A special report on eating and weight-control practices looks at attitudes, behaviours and health problems related to weight and diet.

Key findings of the report, titled *Mirror Images: Weight Issues among BC Youth*, include:

Disordered – or potentially problematic – weight control practices affect both genders. These practices may include intentional vomiting or use of laxatives or diet pills to lose weight, or steroids to gain weight.

Girls with problem weight practices have higher levels of emotional distress than others their age. Both boys and girls with problem weight practices smoke more than students

Promoting Youth-friendly Services

A new provincial strategy, web site and resource package are available to help promote a more youth-friendly approach to services provided by the Ministry for Children and Families. The Youth Participation Strategy is an initiative developed by the BC Ministry for Children and Families in partnership with McCreary. The goal of the project is to encourage more youth involvement in planning, implementation and evaluation of MCF services.

A comprehensive “Tool Kit” includes a video and model program materials for encouraging

meaningful youth participation in communities, organizations and programs. The web site, developed by McCreary’s youth web team, will also link to an inventory of BC youth projects and to other youth-service agencies.

Project coordinator Nicole Herbert says the resources are practical and easy to use, and “should be helpful to anyone interested in youth engagement, from professionals working with youth to young people themselves.”

The Monthly News in Adolescence

The Monthly News in adolescent Medicine is published each month by Dr. DW Richardson, 115 Lower Union St. Kingston, Ontario, K7L 2N3. #549-1302

The journal has about 10 pages and is divided in four sections : Announcements; in which conferences and changes are mentioned, Editorial, Articles in Summary and Case of the month; an interactive article about ‘How to treat a specific patient ?’. There is usually 6 articles, including the case of the month, in each issue with topics like : Mental Health,

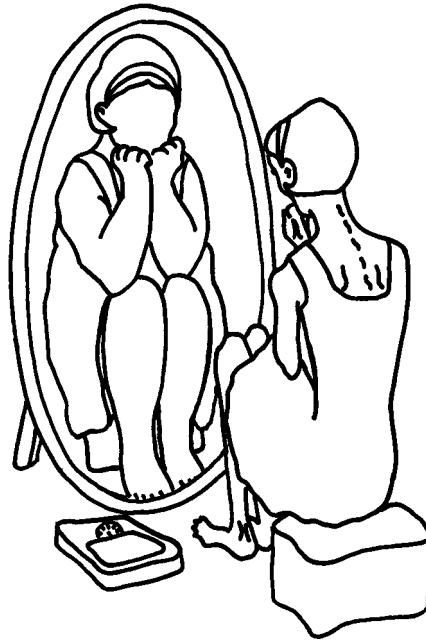
Healthy Eating, Sexuality/Reproductive Health, Aids/VIH, Violence etc. The goal of The Monthly News is mainly to promote adolescent health.

If you have any questions or comments you can email Dr. Richardson at drrichard@sprint.ca.

Joe Dunn is responsible for technical production and article review from the Monthly News. Other technical support supplied by Bruce Dennis.

3rd Ontario Regional Meeting of CAAH

Eating Disorders



Ottawa, October 27 2000

Workshops

The guest speakers and workshops animators will discuss prevention, early intervention and treatment. The meeting will end with a panel of youth and a brief look at networking opportunities for intervention.

Information

CAAH
Section médecine de l'adolescence
3175 Ch Ste-Catherine
Montreal QC H3T 1C5

Tel: (514) 345-9959

Fax: (514) 345-4778

Website : www.acsa-caah.ca