Helping youth to quit smoking: What does research suggest?

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Interdisciplinary Capacity Enhancement
advancing the science to reduce tobacco use

Rehaussement des compétences par l'interdisciplinarité
faire progresser la science pour réduire l'usage du tabac

Reasons for optimism

- Unassisted quit rates for youth are higher than with adults
  - 12 month abstinence rates of up to 40% for adolescents compared to adults rate of 7%
  - May be because more youth are occasional smokers; daily smokers consume fewer cigarettes; youth frequent more supportive environments; youth smoking patterns are less established.

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Cette présentation a été effectuée le 14 novembre 2005, au cours de la journée « Abandon du tabac : les femmes enceintes et les jeunes d'abord! » dans le cadre des Journées annuelles de santé publique (JASP) 2005. L'ensemble des présentations est disponible sur le site Web des JASP, à l'adresse http://www.inspq.qc.ca/jasp/archives/.

Reasons for optimism

Youth have tried to quit in past year

- 67% of 15-17 yr olds
- 61% of 18-19 yr olds
- 60% of 20-22 yrs olds
- 52% of 21-22 yr olds
- 40 % of 25+

CTUMS, 2002

Students in Grades 5 to 9 (age 10 to 15)

- 75% of daily smokers are thinking about quitting;
- 33% of less than daily smokers are thinking of quitting;
- 70.2% of Quebec children who had thought about quitting made at least 1 quit attempt in the last 6 months

O'Loughlin, McDonald, Kaiserman, Viehbeck, 2005

Effectiveness of individual treatments

- Recent reviews
  - Mermelstein, 2003
    - a narrative review
  - Garrison et al., 2003
    - limited to 6 published, controlled trials
  - Sussman, 2002
    - systematic review of 66 published and unpublished trials of various designs and outcomes
  - McDonald et al., 2003
    - refinement of Sussman, 2002
    - most comprehensive and rigorous
    - used a panel of experts instead of single reviewer
    - results based on 20 studies with high or moderate validity (emphasis put on high validity studies)

Expert panel findings

(McDonald et al., 2003)

- Treatments for youth are promising
  - 9 of 20 were effective (incl. 2 of 5 high validity)
- Treatments based on social cognitive theory/cognitive-behavioural approaches are promising
  - 8 of 14 were effective (incl. 2 of 5 high validity)

Components of effective programs

- Goal setting
- Self monitoring and self regulation
- Development of coping skills
- Development of self efficacy re overcoming barriers to quitting, performing required cessation tasks, self regulation/scheduling
  - Cognitive reframing re physical arousal
  - Creating mastery experiences (e.g., practice quitting)
  - Vicarious learning opportunities (watching others who are similar to succeed)
  - Verbal persuasion (esp. from trusted sources)
    - Counter conditioning, cognitive reframing

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Components of effective programs

- Develop and practice skills for coping with negative affect (depression, anger, stress, boredom) , especially during the first 4 weeks of abstinence
- Problem solving
- Positive reinforcement
- Counter-conditioning (including situations, cognitions)
- Stimulus control
- Contingency management

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Components of effective programs

- Understand and respond to individual's outcome expectations and expectancies
  - Must believe that quitting will help you achieve something you value (e.g., social relationships) more than it will cost you something you value

Expert panel findings, cont…

- Insufficient evidence to support other theoretical approaches
  - NO evidence to support stages of change
    - Lawrance, McDonald et al. (unpublished) – 200+ high schools students
    - Aveyard et al (1999) – 8,000 UK 13/14 yr olds
    - Quinlan & McCall – daily smokers in college
    - Dino et al (2004) – 382 West Virginia and Florida high school students - NOT program effective across stages
    - Efficacy with adults has also been questioned
      - Riemssma et al, 2003 – BMJ review of matched treatments
      - McDonald, in progress
      - Whitelaw et al., 2000 - review

Expert Panel Findings, cont…

- Insufficient evidence to draw conclusions about:
  - Pharmacotherapy
    - May not be effective for "light" adult smokers either (Pierce & Gilpin, 2002; Niaura et al., 1994)
    - Youth have less experience modifying their behaviour – hence, non-physiological factors may figure more prominently
  - Best delivery setting
    - Most treatments delivered in school settings (class or outside) and health clinics
    - Some school based and clinic programs were effective (just not enough to draw conclusions)
    - Note: youth smokers less likely to be in school or use clinics

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Expert panel findings, cont…

- Insufficient evidence to draw conclusions about:

  - Best type of provider
    - 4 of 6 teacher/school staff delivered programs were effective (all mod. Validity)
    - 2 of 4 using psychologists, health educators or counselors were effective
    - 1 of 3 using trained peers was effective
  - Voluntary vs. mandatory treatment
    - None of the 3 mandatory treatments were effective

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Update

- Recent studies not available to McDonald et al.
  - Zhu et al. – randomized trial of 1200 adolescents re proactive telephone counseling based on SCT. Modest short term effect for 17 to 19 year olds; no effect for 14 to 16 year olds
  - Lipkus et al. Randomized trial of adolescents re proactive telephone counseling based on SCT. Effective at 6 month follow-up.
  - Adelman et al, 2001 – randomized trial of school-based group program. Effective at 4 week follow-up.
  - Yiming et al. - randomized control study of laser acupuncture with 200+ 12 – 18 yr olds in clinic. No effect.

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Update

- Colby et al (2005) – RCT with 85 14 to 19 yr olds in hospital outpatients. One session of motivational interviewing similar effect as standardized brief advice at 6 month follow-up.
- Myers & Brown (2005). Controlled trial with 54 adolescents undergoing substance abuse treatment. Treatment groups more likely to be abstinent than controls at 3 month follow-up

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Additional observations

- Virtually all effective treatments involved 8 to 24 hours of contact with facilitator
- Few studies examine non-face to face interactions (web-based, telephone)
- Treatments more likely to be effective with older youth (16+)
- Few studies with special populations (despite high prevalence and over-representation).
  - Two studies with psychiatric co-morbidity were not successful

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Additional observations

- No studies looked at interaction between intrapersonal and environmental factors
- Most studies had high loss to follow-up which suggests:
  - Its difficult, even under ideal conditions, to keep youth engaged
  - It significantly undermines statistical power (increases likelihood of missing a true effect)

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Promoting Cessation Aids
What youth say…

- Factors that increase utilization
  - Program is free or incentive provided
  - Friends are supportive
  - Friends are using it
  - Easy to use/low burden
  - Program is effective
  - Program is lead by adults from outside of school
- Factors that inhibit utilization
  - Potential breach of confidentiality/privacy (esp. to parents)
  - Program or material cost money
  - Program offered after school

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Promoting cessation aids
What the outcome data says…

- McDonald et al completed meta-analysis of 48 promotion campaigns to youth smokers (12 to 24)
- Median recruitment rate was 7.8% from a median audience size of 310

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Maximizing participation in cessation aids

- Message characteristics
  - Campaign should last one to three months
  - Use credible adult spokesperson (not youth or a combo)
- Channel characteristics
  - Use media in community rather than rely on school or clinic-based promotion

Maximizing participation in cessation aids

- Source characteristics
  - Health department or research organizations are better than provincial or federal government sponsors
- Destination characteristics
  - Programs offered thru youth centres and workplaces had higher recruitment than schools or clinics
  - Programs offered during winter are best; spring/summer the worst
  - Programs offered before school, during lunch or during work are better than after school
  - Programs that use a variety of cessation tools and formats are more attractive than programs that use one or two strategies

Checking our assumptions

- Youth will quit if their parents do
  - Emerging evidence suggests this may be true; children with no smoking or former smoking parents are less likely to smoke or more likely to quit (Bricker et al., 2003)

Checking our assumptions

- Any quit attempt is a good attempt
  - Zhu et al. (1999), Lawrance and McDonald (1996) and others have found that to be predictive of future abstinence a quit attempt needs to last at least 14 days; short term quit attempts may actually reduce future success (although studies need to adjust for self efficacy and other factors)

Quitting: Its not just an individual thing

- Quit rates and quit ratios differ substantially (up to 60%) across provinces, regions, cities, schools, neighborhoods
- This suggests the social and economic environment profoundly influences youth quitting
- Interventions must not be limited to individuals

Future Considerations

- Study the interaction between individuals and situations. Determine if individual treatments require certain predisposing situational conditions
- Study the effects of policy (taxes, warning labels, smoking restrictions, etc.) on youth cessation (not just prevalence or initiation)
- Identify and develop interventions for important sub-populations
  - Separate 12 – 15, 16 to 18 and 19 – 24 year olds
  - Consider aboriginal status, psychiatric co-morbidity and low SES

Future considerations

- Study new methods of treatment delivery
  - Ubiquitous web-based treatment
  - Ultra brief telephone-based treatment
- Study new places for treatment
  - Workplaces
- Enhance the rigor of evaluation and research
  - More bad or quick and dirty studies won't inform us.
  - Major investments are required
- Link research, practice and policy

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Future considerations

- Use "buzz marketing". Ask successful program participants to help promote your programs.
- Study the effect of developing long term relationships with smokers. Business understand the importance of customer loyalty programs, why shouldn't we?
  - Develop loyalty programs and registries
  - Initiative regular contact

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The End