Smoking Cessation
in the age of Chantix, Bribery, and Health Care Reform

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Overview

- Epidemiology
- The allure of tobacco
- Physicians’ role
- Treatment strategies
- Bribery
- Health Care Reform
It’s Common

- 45 million adults smoke in the U.S. (2006 estimate)
- 21% of the U.S. adult population
- Rate highest among 18-44 year-olds at 25%
It’s deadly!

- From 2000-2004, smoking resulted in an annual average of 443,000 deaths in the United States.
- This is the equivalent of the deaths of all the residents living in Kansas City, Missouri per year.
The breakdown:

Lung Cancer = 29%
CAD = 28%
COPD = 21%
Other Cancers = 8%
Stroke = 3.6%
It’s expensive!

- $194 billion/year in economic losses in the U.S. due to smoking
- GDP of Israel in 2008
- $97 billion a year in lost productivity
- $97 billion spent each year in healthcare costs

The Allure…

- **Nicotine!**
  - Binds to the nicotinic acetylcholine receptors in the brain, releasing dopamine and beta-endorphins
  - Results in euphoria and relaxation
  - Also acts as a stimulant, releasing norepinephrine and epinephrine into the bloodstream
Wait, why would you want to quit?

- Increased coagulation (platelet adhesion)
- Vasoconstriction, accelerated atherosclerosis
- Bronchospasm
- Insulin resistance**
- CNS irritability, sleep disturbance
- Cancer: Lung, Head and Neck, Cervical, Bladder
- Emphysema, chronic bronchitis
Hazard Ratio of Diabetes Incidence by years since quitting
Physicians’ Role

- Do we make a difference? YES!
- Brief physician counseling resulted in 56% increase in smoking cessation compared with patients who were not counseled at all
  - Odds of quitting: 1.56, CI 1.32-1.84
- Pharmacotherapy and counseling together increase patients’ odds of quitting substantially

How do you broach the subject?

- US and UK guidelines suggest using the “5 A’s”:
  - Ask your patients about tobacco use
  - Advise them to stop smoking
  - Assess your patient’s motivation (stage of change) and need for pharmacotherapy
  - Assist with prescriptions and referrals to behavioral support programs
  - Arrange for follow-up on their progress.

Stages of Change Model

- Pre-contemplation—“Ignorance is bliss”
- Contemplation—Ambivalent about change
- Preparation—** Planning to act **
- Action—Actively participating in behavior change
- Maintenance—Sustained behavior change
- Relapse—“Fell off the wagon”

Types of Treatment

- “Going cold turkey”
  - Only 5% chance of quitting at 1 year
- Nicotine replacement
- Antidepressants
  - Bupropion (Zyban, wellbutrin)
  - TCAs, SSRIs
- Partial Nicotine receptor agonists
- Alternative medicine therapies
- Payment
SMOKED HAM

CURED HAM

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Nicotine Replacement

- 71% increase in smoking cessation with NRT over placebo after 1 year.
  - Large meta analysis of 70 trials including 28,343 patients (OR 1.71, CI 1.55-1.88, p = 0.0001).\(^6\)

- Options: inhaler, nasal spray, gum, patch, lozenges
- Side effects: local irritation, HA, insomnia, GI sx
- Contraindicated in patients with recent MI, unstable angina, arrhythmias

Dosing the nicotine patch

- Depends on how much you smoke!
- > 10 cigarettes/day
  - Start with 21 mg/day x 6-8 wks
  - 14 mg/day for 2-4 weeks
  - 7 mg/day for 2-4 more weeks
- < 10 cigarettes/day
  - Start with 14 mg/day x 6 wks
  - 7 mg/day for 2-4 more weeks
Bupropion (Zyban, Wellbutrin)

- Norepinephrine and dopamine reuptake inhibitor
- Nicotinic receptor agonist
- Bupropion has twice the quit rate at 1 year compared with placebo
- Meta analysis of 31 trials, 5228 patients
- Odds of quitting: 1.94, CI 1.72-2.19. P = 0.001

Bupropion (Zyban, Wellbutrin)

- **PROS:** Weight loss, improves mood
- **Side effects:** insomnia, HA, tremulousness
- **Contraindicated in patients with seizure disorders, eating disorders, bipolar or schizophrenia.**
- **Dose:** Start at 150 mg daily x 1 wk, then BID
- **Most effective if started 2-3 weeks before the intended quit date**
Other antidepressants

- SSRI’s studied -- paroxetine and fluoxetine
- No better than placebo
- Odds quitting: 1.08 (CI 0.88-1.21)
- Unless patient is a depressed recovering alcoholic- then can increase chance of quitting

Other antidepressants

- Nortriptyline 2.34 times as effective as placebo
  Meta analysis of 4 trials CI 1.61-3.41, p = 0.001
- Side effects: dry mouth, sedation, MS changes
- Contraindicated in patients with recent MI, unstable angina, arrhythmias, seizure disorders, bipolar, eating disorders, suicidal ideation
- Dose 25 mg qhs, can increase to 75 mg qhs

Varenicline (Chantix)

- Partial nicotinic receptor agonist
- Varenicline has three times quit rate compared with placebo (Pfizer-sponsored studies)
  - Meta analysis of 4 studies, 2428 patients
  - Odds of quitting: 2.96, CI 2.12-4.12 p = 0.0001
- Gained FDA approval May 2006
- Side effects: GI sx, HA, insomnia, nightmares

Varenicline (Chantix)

- 2007– death of Carter Albrecht (Dallas musician) brought media attention to the unwanted psychiatric side effects: suicidal ideation, aggressive, unusual behavior
- **Black box warning issued May 2008 for increased suicide risk**
- Contraindicated in patients with depression, mood disorders, suicidal ideation
Comparing therapies

- NO difference between bupropion and NRT
  - Meta analysis of 2 trials, 548 patients,
  - Odds quitting: 1.14, CI 0.20-6.42, p = 0.88

- Varenicline 50% more effective than Bupropion
  - Meta analysis of 3 trials, 2128 patients
  - Odds quitting: 1.58, CI 1.16-2.21, p = 0.004

Combination Therapy

- Nicotine patch plus bupropion 50% more effective than either alone (equivalent to Varenicline).
- Triple therapy (Nicotine patch **PLUS** prn nicotine **PLUS** bupropion 2x more effective than nicotine patch alone (better than Varenicline)**
- No trials of Varenicline plus NRT

Which way do I go from here?
Summary

- Cold Turkey: 5% per year
- Cold turkey plus physician counseling: 8% per year
- NRT (patch plus extra): ~15% per year
- Bupropion: 15% per year
- NRT plus Bupropion: 23-35% per year
- Varenicline: 23% per year
- Nortriptyline: 20% per year

\[ \text{NNT} = 4-5 \]
Cost per day

- Cigarettes: $5/pack
- Nicotine Replacement therapy**:
  - Gum: $9-10
  - Nasal Spray: $16
  - Patch: $3-4 **
- Bupropion: $2.33
- Varenicline: $6.67
- Nortriptyline: $0.13

**Financial assistance available through CO quit line
Alternative Therapies

"I like to practice before I start acupuncture treatment!"
Acupuncture

- Meta analysis of 22 trials demonstrated no benefit compared with “sham acupuncture” or placebo
- No mention of what “sham acupuncture” entails
- Odds quitting: 1.08, CI 0.77-1.52

Hypnotherapy

- Meta analysis of 9 trials demonstrated no benefit compared with psychological counseling.
- Not able to perform statistical analysis—studies variable

Abbot NC. *Cochrane Database Syst Rev* 1998;(2)CD001008.
What about bribery?

- Study of 878 corporate employees
- Randomized to information on smoking cessation or financial incentives for smoking cessation
- Patients given $100 for completing a course, $250 if tobacco-free at 6 months, and $400 at 12 months
- 3 times greater quit rate in those being paid at 9-12 months after enrollment (14.9% vs 5.0% p < 0.001)

Health Care Reform

- Expands coverage to 32 million Americans
- Provisions to close Medicare Part D donut hole
- “Patch” to maintain Medicare reimbursement to Physicians adjusted for inflation/cost of living
- Will it include reimbursement for smoking cessation or other behavioral change counseling?
  - No—would have to reverse entire payment system to value prevention over procedures
Take home points

- You can make a difference!
- Five A’s
- Focus your attention on those in the planning stage
- If you can’t pay your patients– prescribe!
  - NRT plus bupropion
  - Varenicline – maybe?
  - Nortriptyline
Thank you!

Questions?
References


References


