

Child and Adolescent Psychiatry: Some selected updates

Use of Social Media &
Tobacco and Nicotine Use

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Disclosure

No conflict of interest

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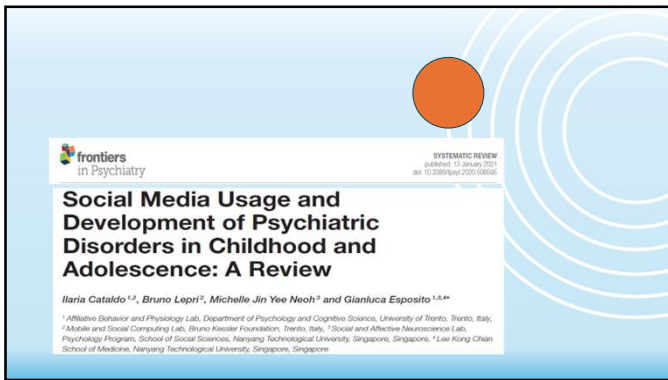
Objectives

- Examine the impact of social media on the psychopathology of children and adolescents along with available health advisory for the mentioned age group
- Describe the effect of & treatment options for nicotine use disorders in adolescents

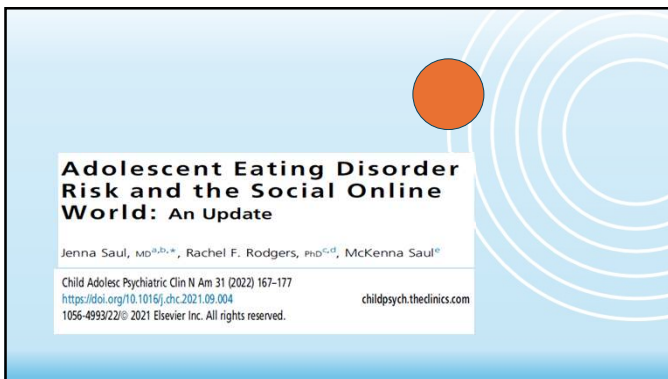
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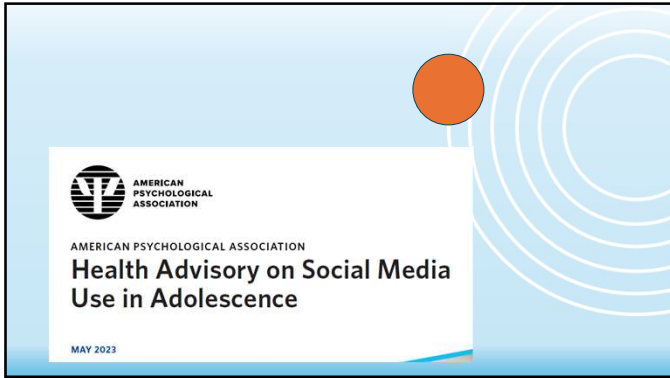
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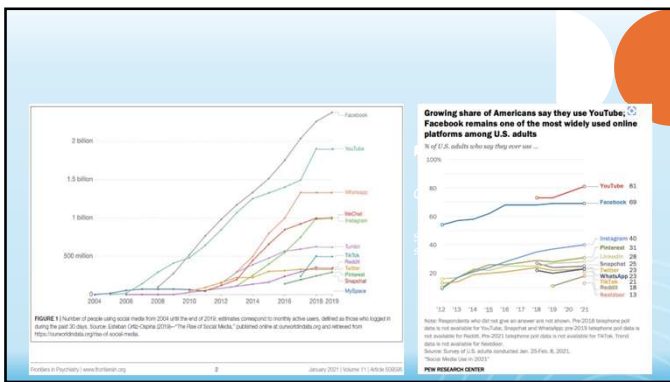
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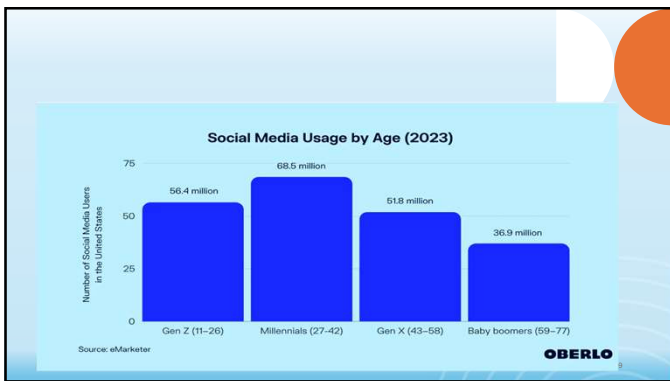
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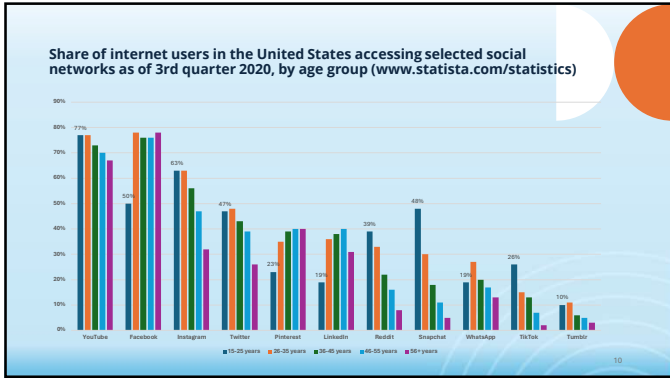
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Effect of Social Media

Emotional and Behavioral Disorder

- Depressive Symptoms
- Anxiety Disorder
- Feeding, Eating Disorders, and Body Dissatisfaction
- Alcohol Use/Abuse and Addiction
- Self-Harm and Suicidal Ideation
- Cyberbullying
- Neurodevelopmental Disorders

Gene-By-Environment Contribution to understand behavior

Social Media Usage and Neural Mechanism

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Effect of Social Media

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Effect of Social Media

Emotional and Behavioral Disorder

- Depressive Symptoms
 - ++ SM use
 - predictive of depressive symptoms
 - Reduce sense of belonging >>loneliness>>depression
 - Depression + sleep problem may indicate ++ SM involvement
 - Addictive attitude with a SM was positively correlated with depression
 - Social comparison can negatively or positively impact self-appraisal

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Effect of Social Media

Emotional and Behavioral Disorder

- Anxiety Disorder
 - SM use may start as a relief of boredom and then anxiety can be secondary product over time
 - Females may be more prone to gender comparison >> anxiety
 - SAD: can be helpful but addictive dependence to be "liked" with fear of being "ridiculed or negative judged"
 - FoMo or Nomophobia can increase use of SM

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Effect of Social Media

Emotional and Behavioral Disorder

- **Feeding, Eating Disorders, and Body Dissatisfaction**

Internet and Social Media Characteristics Relevant to Eating Disorders

Internet and Social Media Characteristics Relevant to Eating Disorders

- Highly visual: Little text, mostly images, with some of the most-popular applications being entirely photo-based.
- Carefully selected, curated, and editing self-presentations that emulate mainstream appearance ideals and values.
- Blurring of the distinction between commercially generated and user-generated content with intentions to increase social capital.
- Machine learning: Content tailored to each user based on previous online activity and interest. Capacity to become an increasing appearance and diet-saturated environment.
- Interactive medium that combines media influences and peer feedback.
- Capacity to bring together individuals with marginal interests and facilitate the normalization behaviors such as ED symptoms.
- Lack of moderation and supervision.
- Strong presence of commercial interests including the diet, beauty, and fitness industries.

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Emotional and Behavioral Disorder

- Feeding, Eating Disorders, and Body Dissatisfaction

Social Media and Internet Use: Key findings and Practice Directions

Key Findings

- Greater Internet and social media use, particularly photo-based activities and applications, have been shown to be associated with eating disorder behaviors and risk factors.
- Individuals who are most invested in their online self-presentation, and younger adolescents, may be most vulnerable.
- Peer feedback and social comparison are emerging as important mechanisms accounting for these relationships.
- Proeating disorder websites advocate for eating disorders as a lifestyle rather than a disorder. More common "thinspiration" content also conveys harmful content promoting food rules and weight loss that are associated with eating disorders.
- Exposure to proeating disorder websites has been shown to be detrimental and increase eating disorder symptoms.
- Prorecovery content is more rare.

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Emotional and Behavioral Disorder

- Feeding, Eating Disorders, and Body Dissatisfaction

Practice directions & recommendations

- Clients' Internet and social media use should be taken into account as an influence for the recovery or maintenance of eating disorder symptoms.
- Clinicians should investigate innovative ways of using the Internet as a means of providing outreach and support.
- Clinicians should learn to direct clients and their families to accurate and helpful online resources.
- Clinicians should encourage clients to consider their relationship to social media, the types of content they view, and their own online contributions and activities, and in the case of minors, encourage parental mediation of online content.

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Effect of Social Media

Emotional and Behavioral Disorder

- Alcohol Use/Abuse and Addiction
- SM can be helpful tool to detect problematic use
- SM can promote healthy behavior
- Also, can promote & motivate increase abstinence for those with problematic use
- Binge drinkers appear to be more prone to use SM excessively
- Can promote risky use of alcohol

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Effect of Social Media

Emotional and Behavioral Disorder

- Self-Harm and Suicidal Ideation
 - SM can influence self-injury tendencies by fostering conduct, contagion or competitions
- Photos of self-injury practices may act as a reinforcer when posted
- Posting may have protective contribution in early recognition of an intention

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Effect of Social Media

Emotional and Behavioral Disorder

- Cyberbullying
 - More prevalent in SM platform with visual contents
 - Emotional impact is high as it spreads quickly and spread of it can't be controlled easily
 - Social anxiety
 - Depression
 - SI and SA

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Effect of Social Media

Emotional and Behavioral Disorder

- Neurodevelopmental Disorders
 - In ASD: May help to improve friendship quality
 - Improved engagement
 - In ASD: May be vulnerable to cyberbullying as well
 - In ADHD: May not be able limit time spent in SM and have consequences
 - In ADHD: More likely to have problematic usage of SM

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Gene-By-Environmental contribution to understand behavior on SM

- Some evidences and some twin-study based evidences indicating correlation
- Oxytocin receptor polymorphism and with a history of perceived high maternal overprotection tend to show a high desirability index on a SM

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SM usage and neural mechanism

- fMRI: SM engagement linked to activity in vSTR
- More recruitment of vSTR in relation to popular shared pics vs less endorsed ones
- Daily smartphone checking & heavy SM usage linked to increase volume of gray matter volume in striatal area
- Addictive impulsive SM usage linked to reduced gray matter vol in ACC
- Decreased vol in right OFC with excessive use of SM
- fMRI: Medial PFC is associated with online & offline rejection and elicit neural response to "Social Pain" area (dorsal ACC, subgual ACC & anterior insula)

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RECOMMENDATIONS:

- Youth using social media should be encouraged to use functions that create opportunities for social support, online companionship, and emotional intimacy that can promote healthy socialization
- Social media use, functionality, and permissions/consenting should be tailored to youths' developmental capabilities
- In early adolescence (i.e., typically 10-14 years), adult monitoring is advised for most youths' social media use; autonomy may increase gradually as kids age
- To reduce the risks of psychological harm, adolescents' exposure to content on social media that depicts illegal or psychologically maladaptive behavior should be minimized, reported, and removed

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RECOMMENDATIONS:

- To minimize psychological harm, adolescents' exposure to "cyberhate" including online discrimination, prejudice, hate, or cyberbullying especially directed toward a marginalized group or an individual because of their identity or allyship with a marginalized group should be minimized
- Adolescents should be routinely screened for signs of "problematic social media use" that can impair their ability to engage in daily roles and routines, and may cause long-term psychological effect
- The use of social media should be limited so as to not interfere with adolescents' sleep and physical activity

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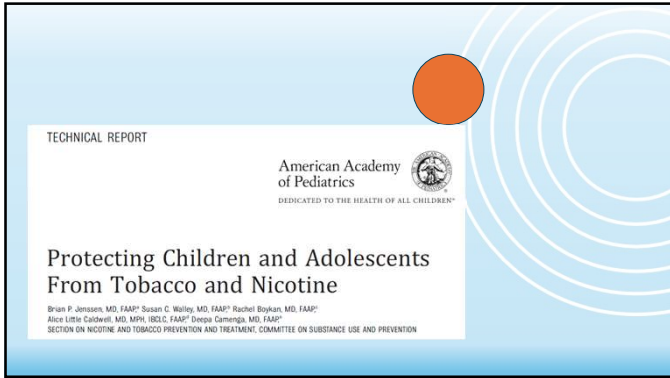
RECOMMENDATIONS:

- Adolescents should limit use of social media for social comparison, particularly around beauty- or appearance-related content
- Adolescents' social media use should be preceded by training in social media literacy to ensure that users have developed psychologically-informed competencies and skills
- Substantial resources should be provided for continued scientific examination of the positive and negative effects of social media on adolescent development

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**Tobacco and Nicotine use in Adolescence:
Its Effect and Management**

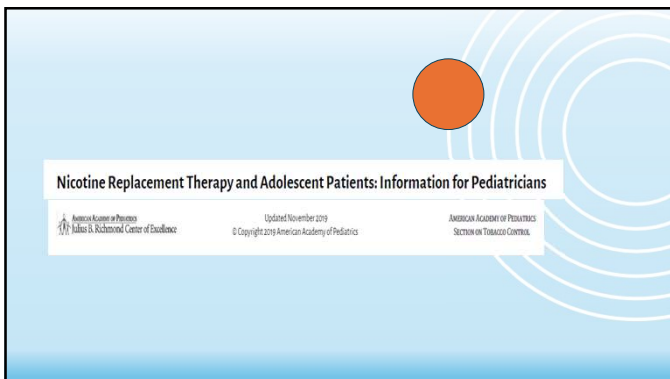
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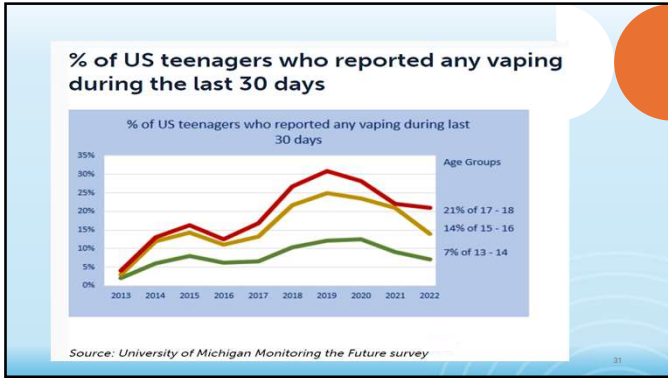
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Key Findings From Literature Review

- Quality of Evidences:
 - High quality
 - Moderate quality
 - Low quality
 - Very low quality

Management of Smoking and Vaping Cessation

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Key Findings From Literature Review

- Quality of Evidences: Further Research
- High quality: **very unlikely to change our confidence in the estimate of effect**
- Moderate quality: **likely to have an important impact on our confidence in the estimate of effect and may change the estimate**
- Low quality: **likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate**
- Very low quality: **Any estimate of effects is very uncertain**

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Key Findings From Literature Review

- High Quality of Evidences (21):
 - Tobacco product use is common among youth
 - Tobacco use disproportionately affects youth from communities that have historically experienced high level of discrimination and stigma
 - As the tobacco product landscaped diversifies, multiple tobacco products uses is common in youth
 - E-cigarette use among adolescents increase the risk of traditional cigarette smoking
 - Tobacco use disorder almost always developed before 18 years of age
 - Nicotine is a highly addictive drug that can have lasting damaging effects on adolescent's brain development and has been linked to a variety of adverse health outcomes
 - Tobacco use leads to substantial death and disease

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Key Findings From Literature Review

- High Quality of Evidences:
 - Youth use of tobacco products in any form is unsafe
 - Tobacco use creates substantial economic burden for the United States
 - Tobacco use disorder is a treatable chronic illness
 - Secondhand tobacco smoke exposure is common among children in the United States
 - Tobacco smoke/aerosol exposure harms children
 - Tobacco exposure harm to the fetus
 - Tobacco smoke exposure increases infant mortality

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Key Findings From Literature Review

- High Quality of Evidences:
 - Tobacco smoke exposure increases asthma prevalence and severity
 - The effects of tobacco smoke exposure on risk of asthma begins in utero
 - Tobacco smoke exposure increases both the risk and severity of bronchitis in children
 - Tobacco smoke exposure increases risk for and severity of other respiratory illness in children
 - Tobacco smoke exposure increases the risk of middle ear disease
 - Tobacco smoke exposure increases the risk of learning and neuro behavioral problems in children
 - Tobacco smoke exposure increases the risk of preclinical atherosclerosis in children

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Key Findings From Literature Review

- Moderate Quality of Evidences:
 - Tobacco smoke exposure increases the risk of childhood cancer
- Low Quality of Evidences:
 - In utero tobacco smoke exposure increases the risk of having overweight in childhood or adolescent
- Very Low Quality Evidences:
 - None

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Management of Smoking and Vaping Cessation

1. General strategies: Screening and Counseling during each interaction with the provider
2. Use of structured counseling strategy implementation
 - The Six A's
 - Anticipate
 - Ask
 - Advise
 - Assess
 - Assist
 - Arrange
3. Utilization of other sources of behavioral support:
 - Adolescent smoking cessation programs
 - Self-help programs and educational websites
4. Pharmacotherapy for adolescence with nicotine dependence

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The Six A's

- Anticipate
- Ask
- Advise
- Assess
- Assist
- Arrange

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Utilization of other sources of behavioral support

- 1-800-QUITNOW or 1-800-YES QUIT or texting "QUIT" to 47848

Resources focused on quitting (includes support by text or mobile app):

- Help2Quit (American Academy of Pediatrics)
- My Life, My Quit (National Jewish Health)
- Smoke free Teen (United States Department of Health and Human Services)
- National Cancer Institute)

Resources for general information:

- Center for Young Women's Health (Boston Children's Hospital)
- Quick Facts on the Risks of E-cigarettes for Kids, Teens, and Young Adults (Centers for Disease Control and Prevention)
- The Truth (Truth Initiative)

Resources primarily for caregivers:

- HealthyChildren.org (American Academy of Pediatrics)
- Talk with Your Teen About E-cigarettes: A Tip Sheet for Parents (Centers for Disease Control and Prevention)

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Julian B. Richmond Center of Excellence

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AMERICAN ACADEMY OF PEDIATRICS
SECTION ON TOBACCO CONTROL

Pharmacotherapy for adolescence with nicotine dependence

- Nicotine Replacement Therapy (NRT)
 - FDA approval – none for under 18 years of age
 - Research on effectiveness – limited but modest
 - AAP policy recommendation – Off level use
 - Needs prescription under 18 years of age
 - Safety – safer than other tobacco products

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Nicotine Replacement Therapy (NRT) - Types

Nicotine Transdermal Patch
(OTC for 18+
Rx for <18)

Cost:
Over-the-counter retail cost ranges from \$25-\$70 for 28 patches.

Out-of-pocket prescription costs will vary by insurance plan.

Dosage:

- 21mg, 14mg, 7mg

Use Instructions:

- Apply patch to clean skin, change patch every 24 hours
- 8-10 week treatment regimen:
 - Use first dose for 6 weeks, then "step down" to lower dose
 - Use lower dose for 2 weeks, then "step down" to lowest dose for 2 more weeks
- See package for full details

Side Effects:

- Skin Irritation, sleep disturbance

Advantages:

- Sustained blood levels of nicotine, compliance is relatively easy

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Nicotine Replacement Therapy (NRT) - Types

Nicotine Gum
*(OTC for 18+
Rx for <18)*

Cost:
Over-the-counter retail cost ranges from \$17-\$50 for 100 pieces of gum.

Out-of-pocket prescription costs will vary by insurance plan.

Dosage:

- 4mg, 2mg

Use Instructions:

- "Chew and park" method:
 - Place the gum in your mouth and chew until you feel a tingling sensation
 - Stop chewing and "park" the gum between cheek and gums
 - After about a minute, start chewing again, until you feel a tingling sensation
 - Stop chewing and "park" the gum again
 - Repeating for about 30 minutes
- 12-week treatment regimen:
 - Chew 1 piece every 1-2 hours for first 6 weeks
 - Chew 1 piece every 2-4 hours for 3 additional weeks
 - Chew 1 piece every 4-8 hours for 3 additional weeks
- See package for full details

Side Effects:

- Jaw soreness, mouth irritation, indigestion, nausea, hiccups

Advantages:

- Flexible dosing, rapid delivery of nicotine into blood stream

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Nicotine Replacement Therapy (NRT) - Types

Nicotine Lozenge
*(OTC for 18+
Rx for <18)*

Cost:
Over-the-counter retail cost ranges from \$15-\$50 for 100 lozenges.

Out-of-pocket prescription costs will vary by insurance plan.

Dosage:

- 4mg, 2mg

Use Instructions:

- Dissolving method:
 - Place lozenge in your mouth, occasionally moving from side-to-side
 - Allow lozenge to slowly dissolve, do not chew or swallow the lozenge
 - Do not use more than 1 lozenge at a time
- 12-week treatment regimen:
 - Use 1 lozenge every 1-2 hours for first 6 weeks
 - Use 1 lozenge every 2-4 hours for 3 additional weeks
 - Use 1 lozenge every 4-8 hours for 3 additional weeks
- See package for full details

Side Effects:

- Oral irritation, nausea, hiccups

Advantages:

- Flexible dosing, rapid delivery of nicotine into blood stream, no chewing (discrete)

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Thank you

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