Snusavvenningstiltak

Notat fra Kunnskapssenteret
Systematisk litteratursøk med sortering
September 2012

kunnskapssenteret

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Nasjonalt kunnskapssenter for helsetjenesten fremskaffer og formidler kunnskap om effekt av metoder, virkemidler og tiltak og om kvalitet innen alle deler av helsetjenesten. Målet er å bidra til gode beslutninger slik at brukerne får best mulig helsetjenester. Kunnskapsenteret er formelt et forvaltningsorgan under Helsedirektoratet, men har ingen myndighetsfunksjoner og kan ikke instrueres i faglige spørsmål.

Nasjonalt kunnskapssenter for helsetjenesten
Oslo, september 2012

Hovedfunn

Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag av Helsedirektoratet å identifisere forskningslitteratur om effekt av ulike snusavvenningstiltak. Vi løste oppdraget ved å utføre et systematisk litteratursøk med påfølgende sortering av mulig relevante publikasjoner.

Metode

Vi utarbeidet søkestrategi for et systematisk litteratursøk om effekt av ulike snusavvenningstiltak. Vi søkte i medisinske databaser etter systematiske oversikter og randomiserte kontrollerte studier. Søket ble utført i juni 2012. Minst to forskere gikk uavhengig av hverandere gjennom identifiserte referanser og vurderte relevans i forhold til inklusjonskriteriene.

Resultater

- Søket identifiserte totalt 909 referanser. Av disse var det 13 mulig relevante systematiske oversikter og 74 mulig relevante randomiserte kontrollerte studier. Vi har ikke undersøkt om de identifiserte studiene er inkludert i de systematiske oversiktene. Vi har presentert referanselister med tittel og sammendrag for den identifiserte forskningslitteraturen.

Tittel:
Snusavvenningstiltak

Publikasjonstype:

Systematisk litteratursøk med sortering

Systematisk litteratursøk med sortering er resultatet av å
- søke etter relevant litteratur ifølge en søkestrategi og
- eventuelt sortere denne litteraturen i grupper presentert med referanser og vanligvis sammendrag

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Svarer ikke på alt:

- Ingen kritisk vurdering av studienes kvalitet
- Ingen analyse eller sammenfatning av studiene
- Ingen anbefalinger

Hvem står bak denne publikasjonen?

Kunnskapssenteret har gjennomført oppdraget etter forespørsel fra Helsedirektoratet

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Når ble litteratursøket utført?

Søk etter studier ble avsluttet juni, 2012.

Innhold

Forord

Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag fra Helsedirektoratet å finne litteratur om effekt av ulike snusavvenningstiltak og effekt av snus som røyke-avvenningsmiddel. Vi har besvart bestillingen med to notater; et systematisk litteratursøk med sortering for hver problemstilling. Dette notatet omhandler ulike snus-avvenningstiltak. Litteraturen i vår referanseliste kan utgjøre et relevant dokumentasjonsgrunnlag når Helsedirektoratet skal gi anbefalinger om tiltak for å slutte med snus.

Prosjektgruppen har bestått av:

- Ingrid Harboe, forskningsbibliotekar, Kunnskapssenteret
- Tove Ringerike, forsker, Kunnskapssenteret
- Ingvil Sæterdal, forsker, Kunnskapssenteret

Gro Jamtvedt	Marianne Klemp	Ingvil Sæterdal
Avdelingsdirektør	*Forskningsleder*	*Prosjektleder*

Innledning

Styrker og svakheter ved litteratursøk med sortering

Kunnskapssenterets produkt, litteratursøk med sortering, blir utført ved at vi gjennomfører systematiske litteratursøk for en gitt problemstilling. Resultatene fra søket blir i sin helhet overlevert oppdragsgiver, eller vi kan gjennomgå søkeresultatet før overleveringen og sortere ut ikke-relevante artikler slik vi har gjort det i dette notatet. Dette gjøres basert på tittel og eventuelt sammendrag. Artiklene innhentes ikke i fulltekst. Dette gjør at vi kan ha inkludert titler som ville vist seg ikke å være relevante ved gjennomlesning av fulltekst. Vi benytter kun databaser for identifisering av litteratur og kan derfor ha gått glipp av potensielt relevante studier. Andre måter å identifisere studier på, som søk i referanselister, kontakt med eksperter på fagfeltet og upublisert litteratur, er ikke utført i dette oppdraget. Vi gjennomfører ingen kvalitetsvurdering av artiklene.

Ved en full kunnskapssoppsummering ville vi ha innhentet artiklene i fulltekst for endelig vurdering opp mot inklusjonskritene. Inkluderte studier ville så blitt kvalitetsvurdert i henhold til våre sjekklister og resultater sammenstilt, gradert og diskutert.

Begrunnelse for valg av søkestrategi

Vi har lagt bestillingen fra Helsedirektoratet til grunn for valg av søkestrategi. Bestillingen inneholdt to problemstillinger: i) Effekt av snus som røykeavvenningsmiddel og ii) Effekt av snusavvenningstiltak. Vi har laget en søkestrategi som omfatter begge problemstillinger. Vi har søkt i relevante elektroniske kilder, men ikke etter grå litteratur eller liknende. Vi har søkt etter systematiske oversikter og etter randomiserte kontrollerte studier. Vi har ikke gjennomgått de systematiske studienes referanselister. Noen av de randomiserte kontrollerte studiene kan derfor være inkludert i de systematiske oversiktene. Ved en fullstendig kunnskapsoppsummering ville vi ha inkludert systematiske oversikter først, og bare søkt etter primærstudier dersom de systematiske oversiktene ikke besvarte våre problemstillinger, eller for å oppdatere oversikten. For problemstillingen i dette notatet anså vi det som mest hensiktsmessig å utføre søkene samtidig.

Problemstilling

I dette notatet har vi søkt etter litteratur for følgende problemstilling:
Hva er effekten av ulike snusavvenningstiltak?

Vi vil utarbeide et eget notat der vi presenterer litteraturlister for problemstillingen om effekt av snus som røykeavvenningstiltak.

Metode

Litteratursøking

Vi søkte systematisk etter systematiske oversikter og/eller randomiserte kontrollerte studier i følgende databaser:

- Embase (Ovid) 1980 to 2012 Week 24
- Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to Present
- PsycINFO 1987 to June Week 2 2012
- Cochrane Library: Cochrane Database of Systematic Reviews
  Cochrane Central Register of Controlled Trials
  Health Technology Assessment Database
- Centre for Reviews and Dissemination: DARE (Database of Abstracts of Reviews of Effects)
- Web of Science (i Web of Knowledge)
- SveMed+
- PubMed

Forskningsbibliotekar Ingrid Harboe planla og utførte samtlige søk. Den fullstendige søkestrategien er vist i vedlegg til denne rapporten. Søk etter litteratur ble avsluttet i juni 2012.

Vi la bestillingen til grunn da vi utarbeidet litteratursøket. Bestillingen inneholdt to problemstillinger og vi søkte etter referanser som oppfylte våre inklusjonskriterier for populasjon, intervensjon og studiedesign for begge problemstillinger under ett. Vi sorterte deretter referansene basert på inklusjonskriteriene for hver problemstilling.

Inklusjonskriterier

Populasjon:	Personer som snuser
Tiltak:	Alle snusavvenningstiltak
Sammenlikning:	Alle snusavvenningstiltak eller placebo

Studiedesign	Systematiske oversikter, randomiserte kontrollerte studier
Språk:	Vi hadde ingen språkbegrensinger i litteratursøket

Artikkelutvelging

To forskere (TR og IS) gikk gjennom alle titler og sammendrag for å vurdere relevans i henhold til inklusjonskriteriene. Vurderingene gjorde vi uavhengig av hverandre og sammenlignet i etterkant. Der det var uenighet om vurderingene, ble inklusjon eller eksklusjon avgjort ved konsensus.

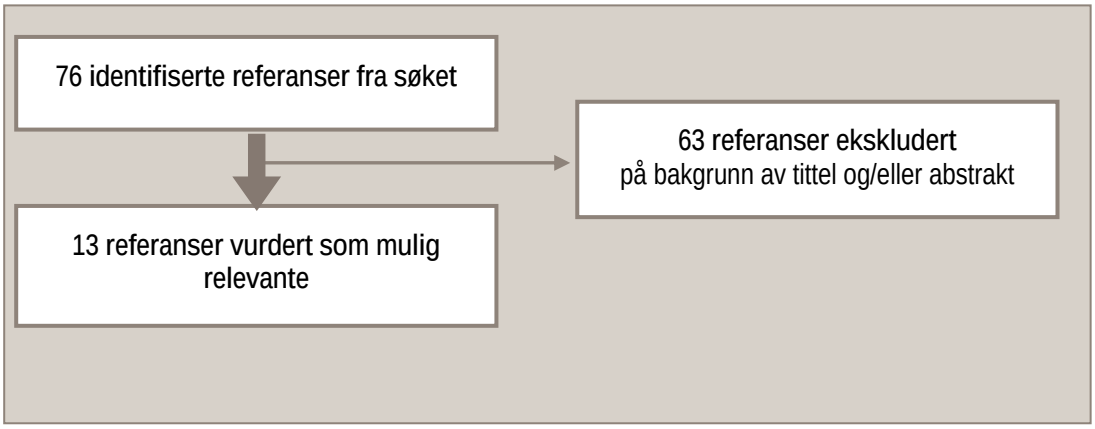
Utvelging av litteratur ble kun gjort basert på tittel og sammendrag. Vi bestilte ikke artiklene i fulltekst.

Resultat

Litteratursøk etter systematiske oversikter

Søket etter systematiske oversikter resulterte i 76 referanser. Vi vurderte 13 av disse til å være mulig relevante i henhold til inklusjonskriteriene, figur 1.

Hovedårsaken til eksklusjon var at publikasjonen ikke omhandlet snusavvennings-tiltak.

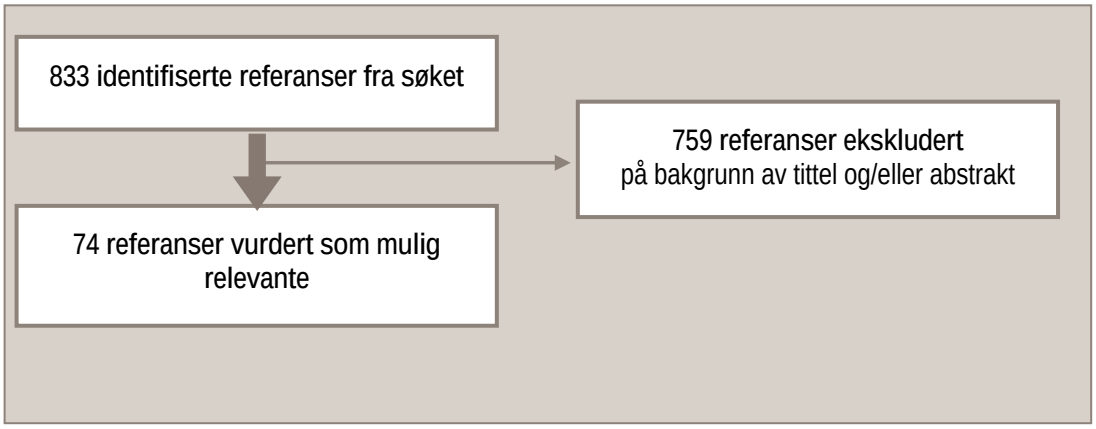


Figur 1. Flytskjema over identifisert litteratur.

Litteratursøk etter randomiserte kontrollerte studier

Søket etter randomiserte kontrollerte studier resulterte i 833 referanser. Vi vurderte 74 av disse til å være mulig relevante i henhold til inklusjonskriteriene, figur 2.

Hovedårsakene til eksklusjon var at referansene ikke oppfylte inklusjonskriteriet for studiedesign (randomiserte kontrollerte studier) og at referansene ikke omhandlet snusavvenningstiltak.



Figur 2. Flytskjema over identifisert litteratur.

Liste over referanser

Nedenfor følger lister over mulig relevante systematiske oversikter og randomiserte kontrollerte studier.

Systematiske oversikter

Referansene er sortert alfabetisk etter førsteforfatter.

(1) Carr AB, Ebbert J. Interventions for tobacco cessation in the dental setting. *cochrane database of systematic reviews* 2012;(6):CD005084.
Ref ID: 522
Abstract: BACKGROUND: Tobacco use has significant adverse effects on oral health. Oral health professionals in the dental office or community setting have a unique opportunity to increase tobacco abstinence rates among tobacco users. OBJECTIVES: This review assesses the effectiveness of interventions for tobacco cessation delivered by oral health professionals and offered to cigarette smokers and smokeless tobacco users in the dental office or community setting. SEARCH METHODS: We searched the Cochrane Tobacco Addiction Group Specialized Register (CENTRAL), MEDLINE (1966-November 2011), EMBASE (1988-November 2011), CINAHL (1982-November 2011), Healthstar (1975-November 2011), ERIC (1967-November 2011), PsycINFO (1984-November 2011), National Technical Information Service database (NTIS, 1964-November 2011), Dissertation Abstracts Online (1861-November 2011), Database of Abstract of Reviews of Effectiveness (DARE, 1995-November 2011), and Web of Science (1993-November 2011). SELECTION CRITERIA: We included randomized and pseudo-randomized clinical trials assessing tobacco cessation interventions conducted by oral health professionals in the dental office or community setting with at least six months of follow-up. DATA COLLECTION AND ANALYSIS: Two authors independently reviewed abstracts for potential inclusion and abstracted data from included trials. Disagreements were resolved by consensus. The primary outcome was abstinence from smoking or all tobacco use (for users of smokeless tobacco) at the longest follow-up, using the strictest definition of abstinence reported. The effect was summarised as an odds ratio, with correction for clustering where appropriate. Heterogeneity was assessed using the I² statistic and where appropriate a pooled effect was estimated using an inverse variance fixed-effect model. MAIN RESULTS: Fourteen clinical trials met the criteria for inclusion in this review. Included studies assessed the efficacy of interventions in the dental office or in a community school or college setting. Six studies evaluated the effectiveness of interventions among smokeless tobacco (ST) users, and eight studies evaluated interventions among cigarette smokers, six of which involved adult smokers in dental practice settings. All studies employed behavioral interventions and only one required pharmacotherapy as an interventional component. All studies included

an oral examination component. Pooling all 14 studies suggested that interventions conducted by oral health professionals can increase tobacco abstinence rates (odds ratio [OR] 1.71, 95% confidence interval [CI] 1.44 to 2.03) at six months or longer, but there was evidence of heterogeneity (I² = 61%). Within the subgroup of interventions for smokers, heterogeneity was smaller (I² = 51%), but was largely attributable to a large study showing no evidence of benefit. Within this subgroup there were five studies which involved adult smokers in dental practice settings. Pooling these showed clear evidence of benefit and minimal heterogeneity (OR 2.38, 95% CI 1.70 to 3.35, 5 studies, I² = 3%) but this was a posthoc subgroup analysis. Amongst the studies in smokeless tobacco users the heterogeneity was also attributable to a large study showing no sign of benefit, possibly due to intervention spillover to control colleges; the other five studies indicated that interventions for ST users were effective (OR 1.70; 95% CI 1.36 to 2.11). AUTHORS' CONCLUSIONS: Available evidence suggests that behavioral interventions for tobacco cessation conducted by oral health professionals incorporating an oral examination component in the dental office or community setting may increase tobacco abstinence rates among both cigarette smokers and smokeless tobacco users. Differences between the studies limit the ability to make conclusive recommendations regarding the intervention components that should be incorporated into clinical practice, however, behavioral counselling (typically brief) in conjunction with an oral examination was a consistent intervention component that was also provided in some control groups. CAN INTERVENTIONS DELIVERED BY DENTAL PROFESSIONALS HELP TOBACCO USERS TO QUIT?: In addition to the well-known harmful effects of smoking on respiratory and cardiovascular systems, tobacco use is associated with an increased risk for oral disease, including cancer and gum disease. Dental professionals are in a unique position to help tobacco users who present for dental care by providing assistance to help them stop smoking or using other tobacco products. Combined findings from 14 studies including over 10,500 participants showed that tobacco interventions by dental professionals helped tobacco users to quit. These findings are similar for smokeless tobacco users and smokers, and the body of evidence reveals a significant increase in demonstrated benefit compared to earlier findings of this review

(2) Ebbert J, Montori VM, Erwin PJ, Stead LF. Interventions for smokeless tobacco use cessation. *Cochrane database of systematic reviews (Online)* 2011; 2(pp CD004306).
Ref ID: 580
Abstract: Use of smokeless tobacco (ST) can lead to nicotine addiction and long-term use can lead to health problems including periodontal disease, cancer, and cerebrovascular and cardiovascular disease. To assess the effects of behavioural and pharmacologic interventions for the treatment of ST use. We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, CINAHL, Web of Science, PsycINFO, Dissertation Abstracts Online, and Scopus. Date of last search: October 2010. Randomized trials of behavioural or pharmacological interventions to help users of ST to quit with follow up of at least six months. Two authors independently extracted data. We summarised as odds ratios. For subgroups of trials with similar types of intervention and without substantial statistical heterogeneity, we estimated pooled effects using a Mantel-Haenszel fixed-effect method. Data from one study suggest that varenicline increases ST abstinence rates (Odds Ratio [OR] 1.6, 95% Confidence Interval (CI) 1.08 to 2.36) among Swedish snus users.Two trials of bupropion SR did not detect a benefit of treatment at six months or longer (OR 0.86, 95% CI 0.47 to 1.57). Nicotine replacement therapy (patch, gum, and lozenge) was not observed to increase tobacco abstinence rates (OR 1.14, 95% CI: 0.91 to 1.42). There was statistical heterogeneity among the 14 trials of behavioural interventions; seven of them reported statistically and clinically significant benefits, four suggested benefit but with wide CIs, whilst two had similar intervention and control quit rates and relatively narrow CIs. Heterogeneity was not explained by the design (individual or cluster randomization), whether participants were selected for interest in quitting, or specific intervention components. Most trials included either telephone counselling, an oral examination and feedback about any ST induced mucosal changes, or both. In a post-hoc subgroup analysis there was some evidence that behavioural interventions which include telephone counselling might increase abstinence rates more than interventions with less contact. In one trial an interactive website increased abstinence more than a static website. Varenicline and behavioural interven-

tions may help ST users to quit. Behavioural interventions incorporating telephone counselling or an oral examination are likely to increase abstinence rates

(3) Ebbert JO, Rowland LC, Montori V, Vickers KS, Erwin PC, Dale LC et al. Interventions for smokeless tobacco use cessation. *Cochrane database of systematic reviews (Online)* 2004;(3):CD004306.
Ref ID: 557
Abstract: BACKGROUND: Use of smokeless tobacco (ST) can lead to nicotine addiction and health problems including periodontal disease and oral cancer OBJECTIVES: To assess the effects of behavioural and pharmacotherapeutic interventions to treat ST use. SEARCH STRATEGY: We searched the Cochrane Tobacco Addiction Group trials register (February 2004), the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library Issue 1, 2004), MEDLINE (January 1966-February 2004), EMBASE (1988-January 2004), CINAHL (1982-February 2004), PsycINFO (1984-February 2004), Database of Abstract of Reviews of Effectiveness (DARE, The Cochrane Library, Issue 1, 2004). SELECTION CRITERIA: Randomized trials of behavioural or pharmacological interventions to help users of ST to quit, with follow-up of at least six months. DATA COLLECTION AND ANALYSIS: Two authors independently extracted data. MAIN RESULTS: One trial of bupropion did not detect a benefit of treatment after six months (Odds Ratio (OR) 1.00, 95% Confidence Interval (CI): 0.23 to 4.37). Three trials of nicotine patch did not detect a benefit (OR 1.16, 95% CI: 0.88 to 1.54), nor did two trials of nicotine gum (OR 0.98, 95% CI: 0.59 to 1.63). There was statistical heterogeneity among the results of eight trials of behavioural interventions included in the meta-analysis. Three trials showed significant benefits of intervention. In a post-hoc analysis the trials of interventions which included an oral examination and feedback about ST-induced mucosal changes had homogeneous results and when pooled showed a significant benefit (OR 2.41 95% CI: 1.79 to 3.24). REVIEWERS' CONCLUSIONS: Behavioural interventions should be used to help ST users to quit. Pharmacotherapies have not been shown to affect long-term abstinence but larger trials are needed

(4) Ebbert JO, Fagerstrom K. Pharmacological interventions for the treatment of smokeless tobacco use. *CNS Drugs* 2012; 26(1):1-10.
Ref ID: 534
Abstract: Smokeless tobacco (SLT) is used in a variety of forms throughout the world. Long-term SLT use is associated with adverse health consequences. Effective pharmacotherapies are needed to treat SLT users who want to achieve tobacco abstinence. In the current review, we discuss the pharmacological interventions identified in a recent meta-analysis of interventions for SLT users, with inclusion of additional articles identified by searching PubMed up to August 2011. Nicotine replacement therapy (NRT) has been demonstrated to increase short-term tobacco abstinence rates and to alleviate craving and withdrawal symptoms among SLT users trying to quit. Bupropion sustained release has been shown to decrease craving and attenuate post-cessation weight gain among SLT users trying to quit. Varenicline is the only available medication demonstrated to increase long-term (>=6 months) tobacco abstinence rates among SLT users. Overall, findings from studies investigating pharmacotherapies for SLT users have been relatively disappointing. SLT reduction interventions may hold some promise for increasing abstinence rates among SLT users not interested in quitting. Additional investigations of higher dose NRT and combination pharmacotherapy are needed to advance the treatment of SLT users

(5) Ebbert JO, Rowland LC, Montori VM, Vickers KS, Erwin PJ, Dale LC. Treatments for spit tobacco use: a quantitative systematic review. *Addiction* 2003; 98(5):569-583.
Ref ID: 1290
Abstract: Aims Spit tobacco use is prevalent in the United States and is associated with adverse health consequences. Health-care providers have neither evidence summaries nor evidence-based guidelines to assist them in treating patients who use spit tobacco. Design We completed a systematic review of the literature to determine the efficacy and safety of pharmacological and behavioral interventions for the treatment of spit tobacco use. Findings We found six randomized controlled trials testing pharmacological interventions and eight testing behavioral interventions Using random-effects. meta-analyses, bupropion sustained-release (SR) increased

point prevalence tobacco abstinence at 12 weeks [odds ratio (OR) 2.1; 95% confidence interval (CI), 1.0-4.2]. Nicotine replacement therapy with patch or gum increased point prevalence tobacco abstinence at 6 months (OR 1.3; 95% Cl, 1.0-1.6). Behavioral interventions increased long-term (6 month) point prevalence tobacco abstinence (OR 1.7; 95% CL 1.1-2.9). Studies including an oral examination followed by feedback to the patient had the highest treatment effect. Conclusions Behavioral interventions for ST users are effective for increasing ST abstinence rates. Bupropion SR is probably effective and nicotine replacement therapy may be effective. This evidence from randomized controlled trials provides health-care professionals with information necessary to effectively treat spit tobacco use

(6) Ebbert J, Montori VM, Erwin PJ, Stead LF. Interventions for smokeless tobacco use cessation. *Cochrane Database of Systematic Reviews: Reviews* 2011; Issue 2.
Ref ID: 1175
Abstract: RECORD STATUS: This is an abstract for a Cochrane review
AUTHOR'S OBJECTIVES: To assess the effects of behavioural and pharmacologic interventions for the treatment of ST use. Use of smokeless tobacco (ST) can lead to nicotine addiction and long-term use can lead to health problems including periodontal disease, cancer, and cerebrovascular and cardiovascular disease
SEARCHING: We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, CINAHL, Web of Science, PsycINFO, Dissertation Abstracts Online, and Scopus. Date of last search: October 2010
DATA EXTRACTION: Two authors independently extracted data. We summarised as odds ratios. For subgroups of trials with similar types of intervention and without substantial statistical heterogeneity, we estimated pooled effects using a Mantel-Haenszel fixed-effect method
RESULTS OF THE REVIEW: Data from one study suggest that varenicline increases ST abstinence rates (Odds Ratio [OR] 1.6, 95% Confidence Interval (CI) 1.08 to 2.36) among Swedish snus users.Two trials of bupropion SR did not detect a benefit of treatment at six months or longer (OR 0.86, 95% CI 0.47 to 1.57). Nicotine replacement therapy (patch, gum, and lozenge) was not observed to increase tobacco abstinence rates (OR 1.14, 95% CI: 0.91 to 1.42). There was statistical heterogeneity among the 14 trials of behavioural interventions; seven of them reported statistically and clinically significant benefits, four suggested benefit but with wide CIs, whilst two had similar intervention and control quit rates and relatively narrow CIs. Heterogeneity was not explained by the design (individual or cluster randomization), whether participants were selected for interest in quitting, or specific intervention components. Most trials included either telephone counselling, an oral examination and feedback about any ST induced mucosal changes, or both. In a post-hoc subgroup analysis there was some evidence that behavioural interventions which include telephone counselling might increase abstinence rates more than interventions with less contact. In one trial an interactive website increased abstinence more than a static website
AUTHOR'S CONCLUSION: Varenicline and behavioural interventions may help ST users to quit. Behavioural interventions incorporating telephone counselling or an oral examination are likely to increase abstinence rates. ARE THERE WAYS TO HELP PEOPLE STOP USING SMOKELESS TOBACCO: Nicotine replacement therapy (patches or gum), and bupropion have not been shown to help people to stop using smokeless tobacco (ST). However, one study shows that varenicline can help people stop. Dentists and hygienists may help their patients to stop, especially when they show them the damage that ST causes in their mouths. Telephone counselling may assist ST users in quitting

(7) Gansky SA, Ellison JA, Kavanagh C, Hilton JF, Walsh MM. Oral screening and brief spit tobacco cessation counseling: a review and findings. *J Dent Educ* 2002; 66(9):1088-1098.
Ref ID: 821
Abstract: This paper reviews five randomized controlled trials of brief spit (smokeless) tobacco (ST) cessation treatment by dental professionals consisting of oral cancer screening, cessation advice, self-help materials, and brief cessation counseling by a dental hygienist. In addition, original two-year findings from a randomized controlled trial to determine the effect of a dental-directed, peer-assisted ST intervention among high school baseball athletes in rural California (n=1084) are reported.

In the latter study, results show sustained quitting at two years of 23 percent (32/141) in the intervention group and 13 percent (21/166) in the control group (OR=2.0, 95% CI 1.1-3.9) with subjects lost-to-follow-up considered non-quitters. The evidence presented supports the efficacy of oral screening and brief cessation counseling by dental professionals to promote ST cessation in the dental office or in athletic facilities. In addition, recommendations for policy and future research are presented

(8) Murphy-Hoefer R, Griffith R, Pederson LL, Crossett L, Iyer SR, Hiller MD. A Review of Interventions to Reduce Tobacco Use in Colleges and Universities. *Am J Prev Med* 2005; 28(2):188-200.
Ref ID: 1082
Abstract: Background: Interventions have been designed to reduce the prevalence of smoking in college/university students. This review presents a summary and synthesis of the interventions published in English from 1980 to the present. Methods: Seven databases were searched for relevant published articles, and reference lists were examined for additional published studies. The studies were categorized as (1) individual approaches, such as on-campus cessation programs, and (2) institutional approaches, such as smoke-free policies. The studies were categorized by type of institution and geographic location, study design, sample demographics, and outcomes. Results: Fourteen studies were identified; only five received a "satisfactory" rating based on evaluation criteria. Most studies were based on convenience samples, and were conducted in 4-year institutions. Seven studies used comparison groups, and three were multi-institutional. Individual approaches included educational group sessions and/or individual counseling that were conducted on campus mostly by healthcare personnel. None used nicotine replacement or other medications for cessation. The quit rates for both smokeless tobacco and cigarette users varied, depending on definitions and duration of follow-up contact. Institutional interventions focused mainly on campus smoking restrictions, smoke-free policies, anti-tobacco messages, and cigarette pricing. Results indicated that interventions can have a positive influence on student behavior, specifically by reducing tobacco use (i.e., prevalence of cigarette smoking and use of smokeless products, amount smoked) among college students, and increasing acceptability of smoking policies and campus restrictions among both tobacco users and nonusers. Conclusions: While some promising results have been noted, rigorous evaluations of a wider range of programs are needed, along with studies that address cultural and ethnic diversity on campuses. (PsycINFO Database Record (c) 2012 APA, all rights reserved) (journal abstract)

(9) Murthy P, Subodh BN. Current developments in behavioral interventions for tobacco cessation. *Current Opinion in Psychiatry* 2010; 23(2):151-156.
Ref ID: 1078
Abstract: Purpose of review: Tobacco use causes a significant amount of mortality and morbidity globally. The search for optimal cost-effective treatment interventions continues as current treatment modalities at best offer modest success in treatment outcome. This review evaluates current developments in behavioral interventions for tobacco cessation and their effectiveness. Recent findings: Most studies of behavioral interventions reported moderate success in quitting tobacco at 6 months. This finding is seen across different professionals providing interventions in diverse settings using various modalities. Behavioral interventions in adolescents and pregnancy seem presently more effective than pharmacotherapy. Technology-driven interventions have gained recent popularity. Combining interventions shows promising results compared with a single intervention. Summary: Most tobacco cessation intervention studies are from developed countries and for cigarette smoking. Long-term cessation still poses a challenge. Given the high global morbidity and mortality, there is a need to develop evidence-based, cost-effective intervention in developing countries for both smoking and smokeless tobacco use. Tobacco addiction produces neurobiological and behavioral change and optimal approaches involving behavioral methods and pharmacotherapy need to be developed. (PsycINFO Database Record (c) 2012 APA, all rights reserved) (journal abstract)

(10) Needleman IG, Binnie VI, Ainamo A, Carr AB, Fundak A, Koeber A et al. Improving the effectiveness of tobacco use cessation (TUC). *Int Dent J* 2010;

60(1):50-59.
Ref ID: 537
Abstract: This paper includes an update of a Cochrane systematic review on tobacco use cessation (TUC) in dental settings as well as narrative reviews of possible approaches to TUC and a more detailed discussion of referral for specialist TUC services. On the basis of these reviews we conclude that interventions for tobacco users in the dental setting increase the odds of quitting tobacco. However, the evidence is derived largely from patients using smokeless tobacco. Pharmacotherapy (such as nicotine replacements, bupropion and varenicline) is recommended for TUC in medical settings but has received little assessment in dental applications, although such evidence to date is promising. Whether the dental setting or referral to specialist TUC services is the most effective strategy to help people to quit tobacco use is unclear. An effective specialist service providing best available TUC care alone may not be the answer. Clearly, such services should be both accessible and convenient for tobacco users. Closer integration of specialist services with referrers would also be advantageous in order to guide and support oral health professionals make their referral and to maximise follow-up of referred tobacco users. Future research direction may consider investigating the most effective components of TUC in the dental settings and community-based trials should be a priority. Pharmacotherapy, particularly nicotine replacement therapy, should be more widely examined in dental settings. We also recommend that various models of referral to external and competent inhouse TUC specialist services should be examined with both experimental and qualitative approaches. In addition to overall success of TUC, important research questions include facilitators and barriers to TUC in dental settings, preferences for specialist referral, and experiences of tobacco users attempting to quit, with dental professionals or specialist services, respectively. 2010 FDI/World Dental Press

(11) Oncken CA, Dietz PM, Tong VT, Belizan JM, Tolosa JE, Berghella V et al. Prenatal tobacco prevention and cessation interventions for women in low- and middle-income countries. *Acta Obstet Gynecol Scand* 2010; 89(4):442-453.
Ref ID: 1273
Abstract: Although the prevalence of tobacco use is decreasing in many high-income countries, it is increasing in many low- and middle-income countries. The health and economic burden of increasing tobacco use and dependence is predictable and will have devastating effects in countries with limited resources, particularly for vulnerable populations such as pregnant women. We sought to review effective tobacco prevention and intervention strategies for decreasing tobacco use and secondhand smoke exposure before and during pregnancy in high-, middle-, and low- income countries. We reviewed several types of interventions, including population-level efforts (increasing tobacco prices, implementing tobacco control policies), community interventions, clinical interventions, and pharmacological treatments. A second purpose of this report is to present findings of an international expert working group that was convened to review the evidence and to establish research priorities in the following areas: (a) preventing the uptake and reducing tobacco use among girls and women of reproductive age; and (b) reducing tobacco use and secondhand smoke exposure among pregnant women. The working group considered the evidence on existing interventions in terms of burden of disease, intervention impact, intervention costs, feasibility of integration into existing services, uniqueness of the contribution, and overall feasibility. Finally, we present the working group's recommendations for intervention research priorities

(12) Ranney L, Melvin C, Lux L, McClain E, Morgan L, Lohr KN. Tobacco use: prevention, cessation, and control. *Evidence report/technology assessment* 2006;(140):1-120.
Ref ID: 551
Abstract: OBJECTIVES: The RTI International-University of North Carolina at Chapel Hill Evidence-based Practice Center (RTI-UNC EPC) systematically reviewed the evidence on (a) the effectiveness of community- and population-based interventions to prevent tobacco use and to increase consumer demand for and implementation of effective cessation interventions; (b) the impacts of smokeless tobacco marketing on smoking, use of those products, and population harm; and (c) the directions for future research. DATA SOURCES: We searched MEDLINE, Cumulative Index to Nursing and Applied Health (CINAHL), Cochrane libraries, Cochrane Clinical Trials Register, Psychological Abstracts, and Sociological Abstracts from January 1980 through

June 10, 2005. We included English-language randomized controlled trials, other trials, and observational studies, with sample size and follow-up restrictions. We used 13 Cochrane Collaboration systematic reviews, 5 prior systematic reviews, and 2 meta-analyses as the foundation for this report. REVIEW METHODS: Trained reviewers abstracted detailed data from included articles into evidence tables and completed quality assessments; other senior reviewers confirmed accuracy and resolved disagreements. RESULTS: We identified 1,288 unique abstracts; 642 did not meet inclusion criteria, 156 overlapped with prior reviews, and 2 were not published articles. Of 488 full-text articles retrieved and reviewed, we excluded 298 for several reasons, marked 88 as background, and retained 102. Evidence (consistent with previous reviews) showed that (a) school-based prevention interventions have short-term (but not long-term) effects on adolescents; (b) multicomponent approaches, including telephone counseling, increase the number of users who attempt to quit; (c) self-help strategies alone are ineffective, but counseling and pharmacotherapy used either alone or in combination can improve success rates of quit attempts; and (d) provider training and academic detailing improve provider delivery of cessation treatments, but evidence is insufficient to show that these approaches yield higher quit rates. New evidence was insufficient to address the following: (a) effectiveness of population-based prevention interventions; (b) effectiveness of provider-based interventions to reduce tobacco initiation; (c) effectiveness of community- and provider-based interventions to increase use of proven cessation strategies; (d) effectiveness of marketing campaigns to switch tobacco users from smoking to smokeless tobacco products; and (e) effectiveness of interventions in populations with comorbidities and risk behaviors (e.g., depression, substance and alcohol abuse). No evidence was available on the way in which smokeless tobacco product marketing affects population harm. CONCLUSIONS: The evidence base has notable gaps and numerous study deficiencies. We found little information to address some of the issues that previous authoritative reviews had not covered, some information to substantiate earlier conclusions and recommendations from those reviews, and no evidence that would overturn any previous recommendations

(13) Severson HH, Hatsukami D. Smokeless tobacco cessation. *Primary Care - Clinics in Office Practice* 1999; 26(3):529-551.
Ref ID: 866
Abstract: Smokeless tobacco use is increasing in the United States, especially among young men, but there are few resources to assist users in quitting their use of moist snuff or chewing tobacco. This article reviews some unique aspects of smokeless tobacco use and provides a systematic four-step clinical plan for providing cessation. The authors provide clear suggestions, measures, and aids for getting the user ready to quit, planning their quit, quitting, and staying quit. The procedures and measures have been validated in randomized clinical trials and provide empirical support for the recommended cessation procedures. Finally, a review of brief cessation interventions in the context of health care is provided

Randomiserte kontrollerte studier

Referansene er sortert alfabetisk etter førsteforfatter.

(1) Akers L, Severson HH, Andrews JA, Lichtenstein E. Cost-effectiveness of self-help smokeless tobacco cessation programs. *Nicotine and Tobacco Research* 2007; 9(9):907-914.
Ref ID: 722
Abstract: This study assessed the cost-effectiveness of two low-intensity programs for quitting smokeless tobacco, based on results of a randomized trial with 1,069 volunteer participants. Cost data were collected for two levels of intervention: manual only (a self-help manual) and assisted self-help (the manual plus a videotape and two supportive phone calls from tobacco cessation counselors). Incremental cost-effectiveness ratios were calculated for assisted self-help vs. quitting on one's own, using the manual-only quit rate and data from another study as alternative proxies for no intervention. A threshold analysis was conducted to determine the spontane-

ous quit rate at which the manual-only intervention becomes more cost-effective than assisted self-help. The cost to provide and receive the assisted self-help intervention averaged US$56 per participant vs. $20 for the manual-only intervention (societal perspective, Year 2000 dollars). Estimates for incremental cost per quit for the assisted self-help intervention ranged from $922 to $1,758, depending on the proxy used for no intervention. The manual-only intervention was more cost-effective than assisted self-help if quitting among motivated chewers who do not receive treatment does not exceed 3.4%. Support from a wife or partner added little cost to a quit attempt for male chewers ($3-$4). Providing a manual, video, and brief phone counseling to smokeless tobacco users who want to quit is a reasonable use of health care resources. The self-help quitting guide also may be a cost-effective treatment, but it remains to be demonstrated whether it is more effective than quitting on one's own

(2) Allen SS, Hatsukami D, Jensen J, Grillo M, Bliss R. Effects of treatment on cardiovascular risk among smokeless tobacco users. *Prev Med* 1995; 24(4):357-362.
Ref ID: 907
Abstract: Background. Studies show sustained levels of nicotine among young males using smokeless tobacco, causing concern for subsequent cardiovascular risk. Also, there is little information on effects of nicotine replacement on cardiovascular risk in cessation programs. This study investigates the effects of nicotine gum replacement in smokeless tobacco cessation on cardiovascular risk factors. Methods. Smokeless tobacco users, ages 18-65, were randomly assigned in a double-blind fashion to 2-mg nicotine or placebo gum. At baseline, Week 4, and Week 8, dependent measurements, heart rate, blood pressure, and weight were recorded, and fasting lipoprotein profiles were drawn. Results. This paper focuses on the smokeless tobacco users who refrained from use during the study period (N = 56). The nicotine gum group weighed less (P = 0.033) than the placebo group throughout the study and weight increased at a significant rate between Weeks 4 and 8 for both groups as gum decreased. Triglycerides were higher for the nicotine gum group than the placebo group (P = 0.031), with triglycerides decreasing between Weeks 4 and 8, with a similar effect seen among nonabstinent smokeless tobacco users. There was no dose, time, or dose by time effect for the other dependent measures. Conclusions. Among smokeless tobacco users who were abstinent, weight increased, with subjects on nicotine gum weighing less throughout the study. The lipoprotein profile, heart rate, and blood pressure did not improve over time, contrary to smokers in whom HDL increases and heart rate decreases with cessation. This could relate to different routes of administration, pharmacokinetics, or by-products of tobacco smoking being absent in smokeless tobacco. In addition, nicotine gum appeared to have neither an adverse nor a positive effect on heart rate, blood pressure, LDL, HDL, or total cholesterol

(3) Andrews JA, Severson HH, Lichtenstein E, Gordon JS, Barckley MF. Evaluation of a dental office tobacco cessation program: Effects on smokeless tobacco use. *Ann Behav Med* 1999; 21(1):48-53.
Ref ID: 857
Abstract: We describe a randomized trial designed to evaluate the effectiveness of a smokeless tobacco cessation intervention delivered by dental hygienists as part of a patient's regularly scheduled cleaning visit. Seventy-five practices were randomized to continue their usual care (n = 25; 239 smokeless tobacco using patients enrolled) or to receive training to provide a tobacco cessation intervention (n = 50; 394 smokeless tobacco using patients enrolled). Patient reports indicated that the training program was successful in getting hygienists to implement the intervention. The intervention produced a strong effect on sustained quitting for smokeless tobacco users but had no impact on secondary outcomes, including unsuccessful quit attempts, future intent to quit using smokeless tobacco, and change in readiness to quit using. Frequency of smokeless tobacco use and receipt of specific components of the intervention, including the video and written materials, predicted sustained cessation. Since this intervention was delivered by dental hygienists as part of a patient's regularly scheduled cleaning visit, it is easily disseminable

(4) Andrews JA. Six Month Outcomes And Predictors Of A Self-Help Smokeless Tobacco Cessation Trial. *Society for Research on Nicotine and Tobacco Sixth An-*

nual Meeting February 18 20 Arlington Virginia 2000.
Ref ID: 259

(5) Berman BA, Guthmann DS, Crespi CM, Liu W. Development and testing of an antitobacco school-based curriculum for deaf and hard of hearing youth. *Am Ann Deaf* 2011; 155(5):592-604.
Ref ID: 1198
Abstract: A tobacco use prevention curriculum tailored for deaf/hard of hearing youth was tested using a quasi-experimental design. Two schools for the deaf received the curriculum; two served as noncurriculum controls. Surveys assessed changes in tobacco use, tobacco education exposure, and tobacco-related attitudes and knowledge among students in grades 7-12 over 3 school years (n = 511-616). Current (past month) smoking decreased significantly at one intervention school (23% to 8%,p = .007), and current smokeless tobacco use at the other (7.5% to 2.5%,p = .03). Tobacco education exposure and antitobacco attitudes and knowledge increased significantly at one or both intervention schools. At one control school, reported tobacco education exposure decreased (p < .001) and antitobacco attitudes increased (p = .01). The results indicate that the curriculum increased perceived tobacco education exposure and significantly affected tobacco-related practices, attitudes, and knowledge. (PsycINFO Database Record (c) 2012 APA, all rights reserved) (journal abstract)

(6) Boyle RG, Enstad C, Asche SE, Thoele MJ, Sherwood NE, Severson HH et al. A randomized controlled trial of Telephone Counseling with smokeless tobacco users: The ChewFree Minnesota study. *Nicotine and Tobacco Research* 2008; 10(9):1433-1440.
Ref ID: 690
Abstract: Although a considerable body of evidence supports telephone quit lines for smoking cessation, much less is known about the effectiveness of proactive Telephone Counseling with smokeless tobacco (ST) users. We conducted a randomized controlled trial comparing Telephone Counseling with the distribution of a self-help manual for ST cessation. We recruited 406 adult ST users throughout the state of Minnesota and randomized them to receive either: (a) a self-help manual (Manual only) or (b) a self-help manual plus proactive telephone-based cessation counseling (Telephone Counseling). The telephone-based treatment included up to four calls in support of quitting, and personalized various cognitive and behavioral strategies that are generally considered effective in tobacco cessation (such as setting a quit date, examining patterns of use, developing stress reduction skills, avoiding known triggers to use). Participants were surveyed by phone at 3 and 6 months to assess both point prevalence and continued abstinence. Prolonged abstinence from all tobacco was 6.8% and 30.9% (p<.001) at 3 months and 9.8% and 30.9% (p<.001) at 6 months in Manual only and Telephone Counseling, respectively. We found older age, lower dependency, and increased readiness predicted quitting success. Proactive telephone-based counseling is an effective strategy for improving cessation rates among ST users. Future research should determine the components contributing to the intervention success

(7) Boyle RG, Pronk NP, Enstad CJ. A randomized trial of telephone counseling with adult moist snuff users. *AM J HEALTH BEHAV* 2004; 28(4):347-351.
Ref ID: 1255
Abstract: OBJECTIVE: To evaluate telephone counseling for moist snuff use. METHODS: We recruited 221 adult males using snuff and randomized them into a telephone-counseling intervention or a quit-manual comparison group. Subjects were contacted by mail at 3 and 6 months to complete a 4-page follow-up questionnaire. RESULTS: A significantly higher proportion of subjects randomized to the intervention quit tobacco at each time point compared to the comparison group. CONCLUSIONS: With appropriate staff training, moist snuff and other types of nonsmoked tobacco should be added to the state-funded smoking cessation quit lines started in recent years

(8) Boyle RG. Smokeless tobacco cessation with nicotine replacement: A randomized clinical trial. *Dissertation Abstracts International* 1992; 54(3):825.
Ref ID: 398

(9) Burton D, Chakravorty B, Weeks K, Flay BR, Dent C, Stacy A et al. Outcome of a tobacco use cessation randomized trial with high-school students. *Subst Use Misuse* 2009; 44(7):965-980.
Ref ID: 652
Abstract: This study analyzed quantitative data on tobacco use and dependency for 3,589 high-school students, qualitative data for 448 students, and outcome data for a randomized trial comparing the efficacy of two cessation interventions and a control condition for 337 students. Data were collected from 1988 through 1992 in California and Illinois as part of a larger longitudinal study. Smokeless tobacco users, but not smokers, were more likely than controls to maintain cessation for 4 months: biochemically validated cessation at 4 months was 6.5 versus 3.2 for smokers and 14.3 versus 0.0 for smokeless tobacco users. Implications and limitations are discussed. 2009 Informa UK Ltd All rights reserved

(10) Chakravorty BJ. A product substitution approach to adolescent smokeless tobacco cessation. *Dissertation Abstracts International* 1992; 53(6-B):2808-2809.
Ref ID: 380

(11) Cigrang JA, Severson HH, Peterson AL. Pilot evaluation of a population-based health intervention for reducing use of smokeless tobacco. *Nicotine and Tobacco Research* 2002; 4(1):127-131.
Ref ID: 834
Abstract: Smokeless tobacco (ST) use has been associated with numerous negative health consequences, yet the prevalence of ST has increased dramatically since the 1970s. Young males in the military are at an elevated risk for ST use relative to the general population. Sixty active-duty male participants were identified as ST users during their annual preventive health screening and randomly assigned to minimal-contact intervention or usual care. Intervention participants were proactively contacted by phone and recruited, using a motivational interviewing style, for a cessation program consisting of a treatment manual, video, and two supportive phone calls from a cessation counselor. Sixty-five per cent (20/31) agreed to participate in the minimal-contact intervention. Three- and 6-month follow-up contacts found that the cessation rates reported by intervention participants were double those reported by participants receiving usual care (41% vs. 17% at 3 months, 37% vs. 19% at 6 months). These pilot study data suggest that proactive recruitment using a motivational interviewing approach to offer a treatment provides a good opportunity to reduce the use of ST in military settings

(12) Cummings SR. An evaluation of a behavioral change intervention for smokeless tobacco use. *Dissertation Abstracts International: Section B: The Sciences and Engineering* 1996; 56(12-B):6692.
Ref ID: 1153
Abstract: During the last three decades considerable attention has been placed on the reduction of tobacco use due to cigarette smoking. During this time, studies have been funded and programs have been developed that focus on both prevention and cessation of cigarette smoking. This intense focus has led to a significant decline in cigarette smoking. But now, use of another form of tobacco--smokeless tobacco--is gaining in popularity. In 1989, the National Cancer Institute funded a research study at The University of Texas M. D. Anderson Cancer Center, called Working Well, to develop, implement, and evaluate worksite health promotion programs aimed at reducing cancer risks. As part of this program, a behavioral intervention for smokeless tobacco use was developed. This dissertation evaluates the impact of that behavioral change intervention for smokeless tobacco use. Data collected during the Working Well program were analyzed to determine the effect of the intervention. The primary outcomes analyzed were smokeless tobacco cessation, stages of change movement, and prevalence. The secondary outcomes analyzed included the prediction of smokeless tobacco use, stage movement, and cessation. Primary outcome analyses were conducted using the worksite as the unit of analysis, while the secondary analyses were conducted using the individual as the unit of analysis. Approximately 20% of the male population used smokeless tobacco. Results of intervention analyses indicate that the Working Well program produced no intervention effect on any of the primary outcomes. At the final observation, the experimental worksites achieved a quit rate of 27%, while the control worksites achieved a quit rate of 26% (P = 0.78).

Stage movement for the experimental worksites was 49%, while the control worksites experienced stage movement of 43% (P = 0.20). The results of the analyses on smokeless tobacco prevalence followed the same pattern. Predictors of smokeless tobacco use, cessation, and stage movem (PsycINFO Database Record (c) 2012 APA, all rights reserved)

(13) Dale LC, Ebbert JO, Schroeder DR, Croghan IT, Rasmussen DF, Trautman JA et al. Bupropion for the treatment of nicotine dependence in spit tobacco users: A pilot study. *Nicotine and Tobacco Research* 2002; 4(3):267-274.
Ref ID: 820
Abstract: Few pharmacological therapies have been shown to increase abstinence rates among spit tobacco (ST) users. Bupropion has been shown to be effective in increasing abstinence rates among smokers but has not been studied in ST users. Sixty-eight adult (aged >=48 years old) regular users of ST who were motivated to stop using ST were enrolled in a randomized, double-blind, placebo-controlled pilot study of bupropion sustained release (SR) or placebo for 12 weeks. The primary endpoint was 1-week, biochemically confirmed point-prevalence tobacco abstinence rate at the end of treatment (week 12). Nicotine withdrawal symptoms and weight change were assessed. At the end of 12 weeks of therapy, the point-prevalence tobacco abstinence rate was 44% in the bupropion group and 26% in the placebo group (p = 0.064). At 24 weeks following initiation of medication, the point-prevalence abstinence rate was 29% for both groups. After 7 weeks of medication, subjects on bupropion reported significantly less (p<=0.034) nicotine withdrawal than placebo. The mean weight change from baseline to end of treatment was +0.7 +/- 1.9 kg for bupropion and +4.4 +/- 2.4 kg for placebo (p = 0.03). The 6-month weight change for continuously abstinent subjects was 3.4 +/- 3.6 kg in the bupropion group and 6.2 +/- 5.0 kg in the placebo group (p = 0.49). Bupropion may increase abstinence rates in ST users and appears to attenuate weight gain during ST abstinence. Larger randomized, controlled trials of bupropion for ST users are needed

(14) Dale LC, Ebbert JO, Glover ED, Croghan IT, Schroeder DR, Severson HH et al. Bupropion SR for the treatment of smokeless tobacco use. *Drug Alcohol Depend* 2007; 90(1):56-63.
Ref ID: 729
Abstract: Background: No pharmacotherapies have been shown to increase long-term (>=6 months) tobacco abstinence rates among smokeless tobacco (ST) users. Bupropion SR has demonstrated potential efficacy for ST users in pilot studies. We conducted a multicenter, randomized, double-blind, placebo-controlled, clinical trial to assess the efficacy and safety of bupropion SR for tobacco abstinence among ST users. Methods: Adult ST users were randomized to bupropion SR titrated to 150 mg twice daily (N = 113) or placebo (N = 112) for 12 weeks plus behavioral intervention. The primary endpoint was the 7-day point-prevalence tobacco abstinence rate at week 12. Secondary outcomes included prolonged and continuous tobacco abstinence rates, craving and nicotine withdrawal, and weight gain. Results: The 7-day point-prevalence tobacco abstinence rates did not differ between bupropion SR and placebo at the end treatment (53.1% versus 46.4%; odds ratio (OR) 1.3; p = 0.301). The 7-day point-prevalence abstinence did not differ at weeks 24 and 52. The prolonged and continuous tobacco abstinence rates did not differ at weeks 12, 24, and 52. A time-by-treatment interaction was observed in craving over time with greater decreases in the bupropion SR group. At 12 weeks, the mean (+/-S.D.) weight change from baseline among abstinent subjects was an increase of 1.7 (+/-2.9) kg for the bupropion SR group compared to 3.2 (+/-2.7) kg for placebo (p = 0.005). Conclusions: Bupropion SR did not significantly increase tobacco abstinence rates among ST users, but it significantly decreased craving and weight gain over the treatment period. 2007 Elsevier Ireland Ltd. All rights reserved

(15) Danaher BG, Severson HH, Zhu S-H, Lichtenstein E, Andrews JA, Yearick C. Evaluating the relative efficacy of web-based intervention and helpline in smokeless tobacco cessation: the CHEWFREE II RCT [SM 12C]. *Society for Research on Nicotine & Tobacco 17th Annual Meeting, February 16 19, Toronto* 2011;15.
Ref ID: 10

(16) Danaher BG, Smolkowski K, Seeley JR, Severson HH. Mediators of a successful web-based smokeless tobacco cessation program. *Addiction* 2008; 103(10):1706-1712.
Ref ID: 1246
Abstract: AIM: To examine self-efficacy and program exposure as possible mediators observed treatment effects for a web-based tobacco cessation intervention. DESIGN: The ChewFree trial used a two-arm design to compare tobacco abstinence at both the 3- and 6-month follow-up for participants randomized to either an enhanced intervention condition or a basic information-only control condition. SETTING: Internet in US and Canada. PARTICIPANTS: Our secondary analyses focused upon 402 participants who visited the web-based program at least once, whose baseline self-efficacy rating showed room for improvement, who reported that they were still using tobacco at the 6-week assessment, and for whom both 3- and 6-month follow-up data were available. INTERVENTION: An enhanced web-based behavioral smokeless tobacco cessation intervention delivered program content using text, interactive activities, testimonial videos and an ask-an-expert forum and a peer forum. The basic control condition delivered tobacco cessation content using static text only. MEASUREMENTS: Change in self-efficacy and program exposure from baseline to 6 weeks were tested as simple and multiple mediators on the effect of treatment condition on point-prevalence tobacco abstinence measured at 3- and 6-month follow-up. FINDINGS: While both participant self-efficacy and program exposure satisfied the requirements for simple mediation, only self-efficacy emerged as a mediator when we used the more robust test of multiple mediation. CONCLUSIONS: Results confirm the importance of self-efficacy change as a probable underlying mechanism in a successful web-based behavioral intervention. While program exposure was found to be a simple mediator of tobacco abstinence, it failed to emerge as a mediator when tested with self-efficacy change in a multiple mediator test suggesting that self-efficacy and program exposure share a complex, possibly reciprocal relationship with the tobacco abstinence outcome. Our results underscore the utility of searching for mediators in research on web-based interventions

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Ref ID: 80

(18) Ebbert JO, Severson HH, Croghan IT, Danaher BG, Schroeder DR. A pilot study of mailed nicotine lozenges with assisted self-help for the treatment of smokeless tobacco users. *Addict Behav* 2010; 35(5):522-525.
Ref ID: 23
Abstract: Smokeless tobacco (ST) is associated with adverse health consequences yet treatment resources for ST are not widely available. Cost-effective behavioral interventions incorporating self-help materials and counseling calls have been demonstrated to reduce ST use rates and can be easily disseminated, but the feasibility and effectiveness of incorporating pharmacotherapy into this approach have not been evaluated. We conducted a clinical pilot study randomizing 60 patients to 12 weeks of the 4-mg nicotine lozenge or placebo delivered through the mail. All subjects received an assisted self-help intervention (ASH) with telephone support. At the end of the medication phase, lozenges were being used by 63% of subjects in the 4-mg nicotine lozenge group and 43% in placebo. The nicotine lozenge decreased composite withdrawal symptoms and adverse events were minimal. No significant differences were observed in abstinence rates between the two groups at 3 or 6 months. We conclude that the mailing of nicotine lozenges to ST users is a feasible and safe strategy the efficacy of which needs to be evaluated

(19) Ebbert JO, Croghan IT, Severson HH, Schroeder DR, Hays JT. A pilot study of the efficacy of varenicline for the treatment of smokeless Tobacco users in Midwestern United States. *Nicotine and Tobacco Research* 2011; 13(9):820-826.
Ref ID: 584
Abstract: Introduction: Long-term smokeless tobacco (ST) use is known to increase the risk for oropharyngeal cancer, heart attack, and stroke. Varenicline has recently been demonstrated to increase ST abstinence rates among Swedish snus users. We

have conducted a pilot study to obtain preliminary evidence of efficacy of varenicline for the treatment of ST users in Midwestern United States. Methods: We conducted a randomized, placebo-controlled Phase II clinical trial to evaluate the potential efficacy of 12 weeks of varenicline for the treatment of ST users with an a priori decision rule that a 1-tailed p < .20 for the comparison of the primary endpoint was evidence to conclude that future studies were warranted. Subjects were followed for 6 months after randomization. Results: We randomized 76 subjects (38 varenicline and 38 placebo). Subjects were similar at baseline with a mean age of 41 years, and all were male. The biochemically confirmed point prevalence tobacco abstinence rates at end of treatment were 55.3% for varenicline and 42.1% for placebo (p = .126) and 47.4% and 31.6% (p = .080), respectively, at 6 months. Point prevalence ST abstinence rates at end of treatment for varenicline were 57.9% and 42.1% for placebo (p = .084) and 57.9% and 31.6% (p = .011), respectively, at 6 months. Varenicline was associated with significantly less craving compared with placebo. Varenicline was well tolerated with nausea and sleep disturbance being the most common side effects. Conclusions: Varenicline decreases craving and may be effective for increasing tobacco abstinence rates among ST users. Larger trials may be warranted to confirm these results. The Author 2011. Published by Oxford University Press on behalf of the Society for Research on Nicotine and Tobacco. All rights reserved

(20) Ebbert JO, Severson HH, Croghan IT, Danaher BG, Schroeder DR. A randomized clinical trial of nicotine lozenge for smokeless tobacco use. *Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco* 2009; 11(12):1415-1423.
Ref ID: 54
Abstract: INTRODUCTION: Smokeless tobacco (ST) use is associated with adverse health consequences, and effective treatments are needed. Pilot data suggest that 4-mg nicotine lozenge decreases tobacco craving and nicotine withdrawal symptoms among ST users.METHODS: We conducted a randomized, placebo-controlled multicenter clinical trial to evaluate the efficacy of 12 weeks of 4-mg nicotine lozenge for ST use.RESULTS: We randomized 270 participants (136 active lozenge, 134 placebo). No significant differences were observed between the groups in biochemically confirmed all tobacco abstinence rates at Week 12 (36% lozenge vs. 27.6% placebo; odds ratio [OR] 1.5, 95% CI 0.7-2.1; p = .138). However, the 4-mg nicotine lozenge increased self-reported all tobacco abstinence (44.1% vs. 29.1%; OR 1.9, 95% CI 1.2-3.2; p = .011) and self-reported ST abstinence (50.7% vs. 34.3%; OR 2.0, 95% CI 1.2-3.2; p = .013) compared with placebo at the end of treatment (Week 12). Following target quit date (TQD), nicotine withdrawal symptoms decreased significantly with time (time effect = -.022 per day, SE = .003; p < .001) and was significantly lower for the active lozenge (treatment effect = -.213, SE = .071; p = .003). Tobacco craving also decreased significantly following TQD (time effect = -.071, SE = .006; p < .001) and was lower for the active nicotine lozenge (treatment effect = -.452, SE = .164; p = .006).DISCUSSION: The 4-mg nicotine lozenge increased self-reported but not biochemically confirmed tobacco abstinence rates at 3 months. The use of the 4-mg nicotine lozenge is associated with decreased nicotine withdrawal symptoms and tobacco craving

(21) Ebbert JO, Dale LC, Patten CA, Croghan IT, Schroeder DR, Moyer TP et al. Effect of high-dose nicotine patch therapy on tobacco withdrawal symptoms among smokeless tobacco users. *Nicotine and Tobacco Research* 2007; 9(1):43-52.
Ref ID: 727
Abstract: No pharmacotherapies have been shown to increase long-term (>=6-month) abstinence rates among smokeless tobacco (ST) users. Available evidence suggests that underdosing may occur with standard-dose nicotine replacement therapy (NRT) in ST users. We investigated the effect of high-dose nicotine therapy on tobacco withdrawal symptoms among ST users in a randomized, controlled clinical pilot study. A total of 42 ST users using at least 3 cans or pouches per week were randomized to nicotine patch doses of 63, 42, or 21mg/day or placebo for 8 weeks. Multiple daily assessments of tobacco withdrawal and nicotine toxicity were obtained with an electronic diary. During the first week of nicotine patch therapy, we observed a dose-response relationship such that higher nicotine patch doses were associated with less decreased arousal (chi² = 6.87, p = .009), less negative affect (chi²=3.85, p = .05), and less restlessness (chi² = 3.90, p = .048). During the second week, higher nicotine patch

doses were associated with less decreased arousal (chi² = 6.77, p = .009). Overall, the frequency of nicotine toxicity symptoms did not differ by dose group. Of specific symptoms, nausea was observed to be more frequent in the 63 mg/day dose group compared with placebo (p = .035). In conclusion, high-dose nicotine patch therapy resulted in a greater reduction of tobacco withdrawal symptoms among ST users using at least 3 cans per week. High-dose nicotine patch therapy is safe and well tolerated in this population of tobacco users

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Ref ID: 730
Abstract: To obtain preliminary evidence on the safety and efficacy of high dose nicotine patch therapy among smokeless tobacco (ST) users who consume >=3 cans of ST per week, we conducted a randomized, placebo-controlled clinical trial with 42 ST users randomized to nicotine patch doses of 21, 42, and 63 mg/day or placebo. Serum nicotine concentrations were measured during ad libitum ST use and nicotine replacement therapy, and percentages of nicotine replacement were calculated. We observed substantial inter-subject variability in nicotine concentrations with ad lib ST use. The mean percentage replacement of ad lib ST use serum nicotine concentrations approximated 100% with the 42 mg/day patch dose (mean +/- S.D., 98.4% +/- 45%). Dosing with the 21 mg/day nicotine patch was associated with mean "under-replacement" (53.2% +/- 17.1%), and the 63 mg/day nicotine was associated with mean "over-replacement" (159.2% +/- 121.9%). We observed symptoms of nausea consistent with nicotine toxicity in two subjects in the 63 mg/day group while no subjects in the 42 mg/day reported these symptoms. We conclude that the use of 42 mg/day nicotine patch therapy is safe and should be considered as initial therapy in the clinical setting among ST users who use >=3 cans/week. 2007 Elsevier Ireland Ltd. All rights reserved

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Abstract: INTRODUCTION: Studies have evaluated smoking reduction with nicotine replacement therapy to reduce tobacco exposure and facilitate abstinence among cigarette smokers, but none have evaluated a reduction approach in smokeless tobacco (ST) users.METHODS: We conducted an open-label pilot study to determine if the 4-mg nicotine lozenge with a behavioral intervention could facilitate ST use reduction among ST users compared with a behavioral intervention alone. Eligible subjects were ST users not interested in quitting.RESULTS: One hundred and two subjects were randomized. Both interventions were associated with significant decreases in ST use and toxicant exposure and with increased abstinence, quit attempts, and duration of abstinence. However, no significant differences were observed between groups for these outcomes.DISCUSSION: A behavioral intervention with or without the nicotine lozenge may be effective for decreasing both ST use and toxicant exposure and for increasing tobacco abstinence, quit attempts, and duration of abstinence. The use of reduction strategies for ST users not interested in quitting deserves further evaluation as an intervention strategy

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(27) Fagerstrom K, Gilljam H, Metcalfe M, Tonstad S, Messig M. Stopping smokeless tobacco with varenicline: Randomised double blind placebo controlled trial. *BMJ (Online)* 2010; 341(7785):1259.
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Abstract: Objective: To assess the efficacy and safety of varenicline (a licensed cigarette smoking cessation aid) in helping users of smokeless tobacco to quit. Design: Double blind, placebo controlled, parallel group, multicentre, randomised controlled trial. Setting: Medical clinics (mostly primary care) in Norway and Sweden. Participants: Men and women aged >=18 who used smokeless tobacco at least eight times a day, with no abstinence period over three months within one year before screening, who wanted to quit all tobacco use. Participants were excluded if they used any other form of tobacco (except smokeless tobacco) or medication to stop smoking within three months of screening or had any pre-existing medical or psychiatric condition. Interventions: Varenicline 1mg twice daily (titrated during the first week) or placebo for 12 weeks, with 14 weeks' follow-up after treatment. Main outcome measures: The primary end point was the four week continuous abstinence rate at the end of treatment (weeks 9-12) confirmed with cotinine concentration. A secondary end point was continuous abstinence rate for weeks 9-26. Safety and tolerability were also evaluated. Results: 431 participants (213 varenicline; 218 placebo) were randomised and received at least one dose of study drug. Participants' demographics and baseline use of smokeless tobacco were similar (89% (189) and 90% (196), respectively, were men; mean age in both groups was 43.9; participants used smokeless tobacco products about 15 times a day, and about 80% first used smokeless tobacco within 30 minutes after awakening). Continuous abstinence rate at week 9-12 was higher in the varenicline group than the placebo group (59% (125) v 39% (85); relative risk 1.60, 95% confidence interval 1.32 to 1.87, P<0.001; risk difference 20%; number needed to treat 5). The advantage of varenicline over placebo persisted through 14 weeks of follow-up (continuous abstinence rate at week 9-26 was 45% (95) v 34% (73); relative risk 1.42, 1.08 to 1.79, P=0.012; risk difference 11%; number needed to treat 9). The most common adverse events in the varenicline group compared with the placebo group were nausea (35% (74) v 6% (14)), fatigue (10% (22) v 7% (15)), headache (10% (22) v 9% (20)), and sleep disorder (10% (22) v 7% (15)). Few adverse events led to discontinuation of treatment (9% (19) and 4% (9), respectively), and serious adverse events occurred in two (1%) and three (1%) participants, respectively. Conclusion: Varenicline can help people to give up smokeless tobacco and has an acceptable safety profile. The response rate in the placebo group in this study was high, suggesting a population less resistant to treatment than smokers. Trial Registration: NCT00717093

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(30) Gansky SA, Ellison JA, Rudy D, Bergert N, Lutendre MA, Nelson L et al. Cluster-randomized controlled trial of an athletic trainer-directed spit (smokeless) tobacco intervention for collegiate baseball athletes: results after 1 year. *J ATHLETIC TRAIN* 2005; 40(2):76-87.
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Abstract: Context: Athletes in the United States are at high risk for using spit (smokeless) tobacco (ST) and incurring its associated adverse health effects.Objective: To examine whether an athletic trainer-directed ST intervention

could decrease initiation and promote cessation of ST use among male collegiate baseball athletes.Design: Stratified, cluster-randomized controlled trial.Setting: Fifty-two California colleges.Patients or Other Participant(s): A total of 883 subjects in 27 intervention colleges and 702 subjects in 25 control colleges participated, as did 48 certified athletic trainers.Intervention(s): For college athletic trainers and associated dental professionals, a 3-hour video conference, and for collegiate athletes, an oral cancer screening with feedback and brief counseling during the preseason health screenings, athletic trainer support for cessation, and a peer-led educational baseball team meeting.Main Outcome Measure(s): The subjects' ST use over 1 year was assessed by self-report. At the end of the study, the certified athletic trainers were mailed a survey assessing their tobacco use and perceptions and behavior related to tobacco control in the athletic environment. We used multivariable logistic regression models for clustered responses (generalized estimating equations) to test the difference between groups in ST-use initiation and cessation and to identify significant overall predictors of noninitiation and cessation of ST use.Results: Of the 1585 athletes recruited, 1248 (78.7%) were followed up at 12 months. In addition, 48 of the 52 athletic trainers (92%) responded to the 1-year follow-up survey. The ST-use initiation (incidence) was 5.1% in intervention colleges and 8.4% in control colleges (generalized estimating equation odds ratio = 0.58, 95% confidence interval = 0.35-0.99). Predictors of ST noninitiation were low lifetime tobacco and monthly alcohol use (odds ratio = 1.98, 95% confidence interval = 1.40- 2.82) and athletic trainers' report that the baseball coach supported ST-use prevention activities (odds ratio = 1.43, 95% confidence interval = 1.11-1.83). Although at 1 year, cessation of ST use was relatively high in both groups (36%), we noted no significant difference between the groups (odd ratio = 0.94, 95% confidence interval = 0.70-1.27).Conclusions: The intervention was significantly effective in preventing incident ST use but did not significantly increase cessation beyond that seen in the control group. The latter finding is inconsistent with previous studies and may be explained by spillover of the intervention to control colleges, other anti-tobacco activity in control colleges, and/or the small sample of dependent ST users enrolled in the study

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Ref ID: 1259
Abstract: OBJECTIVE: To evaluate the potential efficacy of bupropion sustained release when used in combination with minimal counseling for moist snuff cessation in males. METHODS: A double-blind, placebo-controlled 3-month trial. The active treatment group (n = 35) received bupropion SR at 150 mg/qd day for the first 3 days, then beginning day 4 through day 49 (7 weeks) 150 mg/ b.i.d. The placebo group (n= 35) received 1 tablet qd for 3 days and beginning day 4 through day 49, 1 tablet/b.i.d. RESULTS: Bupropion 300 mg/day (150 b.i.d.) produced significantly higher quit rates for smokeless tobacco cessation at the end of treatment (7 weeks) than placebo (p = 0.04) with an OR of 2.73. CONCLUSION: Bupropion SR appears to be effective for smokeless tobacco cessation

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Ref ID: 578
Abstract: Background. The Ask, Advise, Refer (AAR) model of intervening with patients who use tobacco promotes a brief office-based intervention plus referral to a tobacco quitline. However, there is little evidence that this model is effective. The primary aim of this study was to evaluate the effects on patients' tobacco use of two levels of a dental office-based intervention compared with usual care. Methods. The authors randomly assigned 68 private dental clinics to one of three conditions: 5 As (Ask, Advise, Assess, Assist, Arrange); 3 As (AAR model); or usual care, and they enrolled 2,160 participants. Results. At the 12-month assessment, compared with those in usual care, participants in the two intervention conditions combined were more likely to report cessation of tobacco use, as measured by nine-month prolonged abstinence (3 percent versus 2 percent; F_{1.66} = 3.97, P < .10) and 12-month point prevalence (12 percent versus 8 percent; F_{1.66} = 7.32, P < .01). There were no significant differences between participants in the clinics using the 5 As and 3 As strategies. Conclusions. The results of this study are inconclusive

as to whether referrals to a quitline add value to brief dental office-based interventions. Patients receiving telephone counseling quit tobacco use at higher rates, but only a small percentage of those proactively referred actually received counseling. Clinical Implications. The results confirm those of previous research: that training dental practitioners to provide brief tobacco-use cessation advice and assistance results in a change in their behavior, and that these practitioners are effective in helping their patients to quit using tobacco

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Ref ID: 352
Abstract: There are few reports in the scientific literature that describe tested methods for helping people quit using spit (smokeless) tobacco. This paper reports data from a pilot study to determine the effectiveness of two dental-oriented interventions to promote cessation of ST use among major league baseball players. These preliminary findings suggest that interventions involving an oral examination and advice to quit, combined with behavioral counseling, may effectively decrease ST use among professional baseball players

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Ref ID: 316
Abstract: The purpose of this study was to examine the effects of 2 mg of nicotine polacrilex versus placebo gum and of group behavioral treatment versus minimal contact on cessation of smokeless tobacco use. Participants (N = 210) were randomly assigned 1 of the 4 treatment conditions. Withdrawal symptoms were assessed throughout the treatment. Follow-up assessments were made at 1, 6, and 12 months posttreatment. Survival curve analysis showed that any of the 3 treatment groups involving group behavioral therapy or placebo gum were equally effective and superior to the minimal contact plus 2 mg of nicotine gum treatment in terms of abstinence. On the other hand, withdrawal symptoms were significantly reduced by nicotine gum, compared with placebo during the initial phases of cessation. The ineffectiveness of nicotine gum on treatment outcome may be attributed to its similarity with smokeless tobacco

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(36) Hatsukami DK, Edmonds A, Schulte S, Jensen J, Le CT, Losey L et al. Preliminary study on reducing oral moist snuff use. *Drug Alcohol Depend* 2003; 70(2):215-220.
Ref ID: 195
Abstract: BACKGROUND: Tobacco exposure reduction may be an alternative treatment approach for those tobacco users who are unwilling or unable to quit tobacco use. However, very little information is available on the feasibility of this type of intervention, especially in the area of oral moist snuff tobacco (ST). This pilot study examined whether reducing ST use using various methods can be achieved and whether this reduction results in lower exposure to carcinogens.METHODS: Moist snuff users (N=40 males) were randomly assigned to 4 mg nicotine gum, non-tobacco mint snuff, brand switching, or elimination of ST use in specific situations. These approaches were used to reduce ST use or nicotine exposure by at least 25% for the first 2 weeks and 50% the subsequent 6 weeks of treatment. Follow-up sessions occurred at 12 and 26 weeks.RESULTS: Significant reductions were observed in tins per week and cotinine levels across all conditions. Among the intent-to-treat population, the abstinence rate was 15% at 26 weeks. Reduction in nicotine exposure was associated with reduction in exposure to nitrosamines.CONCLUSION: Reduction in ST use may be a viable approach for those oral moist ST users with no immediate quit plans. Future research in this area is needed

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Ref ID: 122
Abstract: The purpose of this study was to examine the effects of smokeless tobacco (ST) brand switching on biomarkers of ST exposure and on ST use. Subjects seeking treatment to reduce their use were randomized to ST brand switching with controlled ST topography, brand switching with ad libitum ST use, or a waitlist control with subsequent randomization to one of these two conditions. The waitlist control group was included to assess whether changes were a consequence of time effect. During the intervention, Copenhagen or Kodiak ST users were asked to switch to products that were sequentially lower in nicotine content: Skoal Long Cut Straight or Wintergreen for 4 weeks and then Skoal Bandits for the subsequent 4 weeks. Measures were obtained during the course of treatment and at 12-week follow-up. Significant reductions in total urinary cotinine and 4-(methylnitrosamino)-L-(3-pyridyl)-L-butanol (NNAL) plus its glucuronides (total NNAL) were observed with no significant differences between the controlled topography and ad libitum conditions. Significant reductions were also observed in the amount and duration of dips with a significant intervention effect for durational measures. At 12 weeks, the 7-day biochemically-verified tobacco abstinent rate was 26% in the ad libitum group. ST brand switching may be a feasible alternative intervention for ST users interested in quitting but unwilling to stop ST use completely

(38) Hatsukami DK, Ebbert JO, Edmonds A, Li C, Lin H, Le C et al. Smokeless tobacco reduction: preliminary study of tobacco-free snuff versus no snuff. *Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco* 2008; 10(1):77-85.
Ref ID: 99
Abstract: This preliminary study examined the effects of tobacco-free snuff (intervention, n = 52) compared with no snuff (control, n = 54) for reducing tobacco use among smokeless tobacco (ST) users not interested in quitting. Both groups received behavioral instructions, and intervention subjects received tobacco-free snuff for 8 weeks. Participants were required to reduce their intake by 50% during the first 4 weeks and by 75% during the subsequent 4 weeks. Follow-up occurred at 12 weeks. Significant reductions were observed from baseline to week 8 (end of treatment) for both treatment groups in the amount of ST use (tins/week and dips/day, $p<.001$); mean urinary cotinine ($p<.001$); and mean urinary total NNAL, a carcinogen biomarker ($p<.001$). At week 8 the intervention resulted in a lower mean total NNAL ($p = .048$). Compared with the control condition, the intervention resulted in a higher percentage of subjects achieving at least a 50% reduction in cotinine ($p = .046$) and total NNAL ($p = .002$) at the end of treatment, more quit attempts ($p = .030$), and a longer mean duration of abstinence ($p = .013$) through follow-up. An ST reduction intervention incorporating tobacco-free snuff could potentially reduce risk for ST-related disease beyond that achieved with no snuff by increasing the number of patients who achieve significant reductions in carcinogen exposure and, more important, by facilitating tobacco abstinence by increasing quit attempts and abstinence duration

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Ref ID: 853
Abstract: The purpose of this study was to examine the effects of nicotine patch and mint snuff (a nonnicotine product) on craving, withdrawal symptoms, and treatment outcome. This study involved a 2 x 2 factorial design, with Active Nicotine Versus Placebo Patch as one of the factors and Mint Snuff Versus No Mint Snuff as the other factor. Spit tobacco users (N = 402, n = 100-101 in each condition) were randomly assigned to 1 of the 4 treatment conditions for a period of 10 weeks. Treatment outcome was measured up to 62 weeks. The results showed that the nicotine patch was effective in increasing short-term abstinence over the placebo patch and in reducing craving and withdrawal signs and symptoms from spit tobacco. Although mint snuff was not effective in enhancing treatment outcome, it reduced craving and withdrawal symptoms. No interaction effects were observed. At this time, the use of the nico-

tine patch and mint snuff should be primarily considered for the reduction of craving and withdrawal symptoms

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Ref ID: 856
Abstract: The authors examined the efficacy of transdermal nicotine replacement for cessation in 410 adult nonsmoking chewing tobacco users. Participants were randomly assigned to 6 weeks of 15-mg nicotine patch plus behavioral treatment or placebo patch plus behavioral treatment. All participants received the same behavioral treatment of 2 pharmacy visits, 2 support calls, and self-help materials. At 6 months after treatment, biochemically confirmed point-prevalence rates (no chewing in the last 7 days) in the active (38%) and placebo (34%) groups were high and not significantly different. The difference in relapse (no chewing for 7 consecutive days) between the active patch group (33%) and placebo group (48%) was significant at 6 months (p = .003). Nicotine dependence and age predicted nonrelapse at 6 months. The results suggest that nicotine replacement may improve chewers' chances of abstinence

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Ref ID: 137
Abstract: The authors evaluated the effect of a brief tailored smoking control intervention delivered during basic military training on tobacco use in a population of military personnel (N = 33,215). Participants were randomized to either a tobacco use intervention (smoking cessation, smokeless tobacco use cessation, or prevention depending on tobacco use history) or a health education control condition. Results indicated that smokers who received intervention were 1.16 (95% confidence interval [CI] = 1.04, 1.30) times (7-day point prevalence) and 1.23 (95% CI = 1.07, 1.41) times (continuous abstinence) more likely to be abstinent than controls from smoking cigarettes at the 1-year follow-up (p < .01); the cessation rate difference was 1.60% (31.09% vs. 29.49%) and 1.73% (15.47% vs. 13.74%) for point prevalence and continuous abstinence, respectively. Additionally, smokeless tobacco users were 1.33 (95% CI = 1.08, 1.63) times more likely than controls (p < .01) continuously abstinent at follow-up, an overall cessation rate difference of 5.44% (33.72% vs. 28.28%). The smoking prevention program had no impact on smoking initiation. These results suggest potential for large-scale tobacco control efforts

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Ref ID: 384
Abstract: This study was designed to test the effectiveness of a smokeless tobacco (ST) intervention delivered in the oral healthcare office setting. A total of 518 male ST users were identified by questionnaire in clinic waiting rooms and then randomly assigned to either a usual-care control group or a special intervention group. Dental hygienists took the primary role in delivering the intervention, which consisted of a soft-tissue examination with special attention to oral lesions, advice to quit ST, distribution of self-help materials, a short video on why and how to stop using smokeless tobacco, and encouragement to set a quit date. Follow-up assessments conducted three months after the office visit showed that a significantly greater proportion of intervention group patients had stopped using ST (32% of the intervention group participants versus 21% of control group patients, kappa 2 = 8.03, p less than .01). The intervention protocol is described in detail so that dental hygienists may adapt it for use in their practice

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Ref ID: 880
Abstract: Sixteen colleges were matched on the baseline prevalence of spit tobacco (ST) use, and college pairs were randomized, one to the intervention and the other to

the control group. Baseball and football athletes at each intervention college received: an oral examination by a dental professional who pointed out ST-related problems in the athlete's mouth and advised him to quit ST use; counseling by a dental hygienist on strategies to cope with cravings and triggers for use; and two follow-up telephone calls. At the three-month follow-up, quit rates were 24% and 16% for the intervention (n = 171) and control (n = 189) groups, respectively ($p < 0.05$). As the reported amount of ST used weekly increased, the percent of individuals who quit at 3 mos decreased ($p < 0.05$). Dental professionals appear to be effective in promoting spit tobacco cessation at 3 mos post-intervention in male college athletes, especially among those using lesser amounts of ST

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Ref ID: 631
Abstract: Background: Among Alaska Native women residing in the Yukon-Kuskokwim (Y-K) Delta region of Western Alaska, about 79% smoke cigarettes or use smokeless tobacco during pregnancy. Treatment methods developed and evaluated among Alaska Native pregnant tobacco users do not exist. This pilot study used a randomized two-group design to assess the feasibility and acceptability of a targeted cessation intervention for Alaska Native pregnant women. Methods: Recruitment occurred over an 8-month period. Enrolled participants were randomly assigned to the control group (n = 18; brief face-to-face counseling at the first visit and written materials) or to the intervention group (n = 17) consisting of face-to-face counseling at the first visit, four telephone calls, a video highlighting personal stories, and a cessation guide. Interview-based assessments were conducted at baseline and follow-up during pregnancy (>=60 days postrandomization). Feasibility was determined by the recruitment and retention rates. Results: The participation rate was very low with only 12% of eligible women (35/293) enrolled. Among enrolled participants, the study retention rates were high in both the intervention (71%) and control (94%) groups. The biochemically confirmed abstinence rates at follow-up were 0% and 6% for the intervention and control groups, respectively. Discussion: The low enrollment rate suggests that the program was not feasible or acceptable. Alternative approaches are needed to improve the reach and efficacy of cessation interventions for Alaska Native women. The Author 2009. Published by Oxford University Press on behalf of the Society for Research on Nicotine and Tobacco

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Ref ID: 1106
Abstract: Despite the well-known health risks associated with smokeless tobacco use, much is unresolved with respect to effective treatment for use of this substance. The present study examined the impact of a nicotine-free smokeless tobacco substitute and confectionary chewing gum on craving, withdrawal, and anxiety among 24 smokeless tobacco users following 24 hours of nicotine abstinence and a laboratory stressor. Although chewing gum did not impact withdrawal, craving, or anxiety compared to a no-product control condition, smokeless tobacco substitute administration resulted in a reduction of withdrawal and craving levels compared to the control condition following 24 hours of abstinence. Furthermore, significantly lower levels of craving and withdrawal were observed in both smokeless tobacco and smokeless tobacco substitute conditions compared to the control condition following the stressor. Results indicate that although general oral stimulation (eg, chewing gum) was not effective in reducing symptoms related to nicotine withdrawal, smokeless tobacco substitute use appears to be helpful in reducing withdrawal levels post-stressor. These data suggest that use of a smokeless tobacco substitute may be an effective aid in helping individuals wishing to quit, especially when managing stressors. (PsycINFO Database Record (c) 2012 APA, all rights reserved) (journal abstract)

(46) Schinke SP, Gilchrist LD, Schilling II RF, Senechal VA. Smoking and smokeless tobacco use among adolescents: Trends and intervention results. *Public Health Rep* 1986; 101(4):373-378.
Ref ID: 982

Abstract: Data from a 2-year study describe tobacco use trends, perceptions, and prevention effects for 1,281 5th and 6th graders enrolled in 12 randomly selected Washington State elementary schools. Youths were pretested, then randomly divided by school into skills, discussion, and control groups. Preventive intervention curriculums for the skills and discussion groups included age-relevant information on smoked and smokeless tobacco use, peer testimonials, debates, games, and homework. Youths in the skills group also learned communication and problem-solving methods for handling difficult situations around tobacco use. Following intervention, youths were posttested, then retested semiannually for 2 years. During the 2-year study, three-quarters of all smokers and nonusers and half of all smokeless tobacco users maintained their statuses. Only 10 percent of all smokers and 3 percent of all smokeless users quit their habits. One in six reported new tobacco use, one-third of smokers began using smokeless tobacco, and two-thirds of all smokeless users began smoking during the study. Most youths at final measurement perceived smokeless tobacco as less of a health risk than smoking. Nearly one in two of all smokeless users intended to smoke, and two-thirds were actually smoking at 24-month followup. Both smoked and smokeless tobacco use rates increased in all groups, and youths in the skills intervention group consistently showed the lowest rates relative to the other groups. These findings demonstrate the potential of skills intervention methods for lowering tobacco use among adolescents

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Ref ID: 702
Abstract: The sizeable percentage of adults who use smokeless tobacco (ST) represents an important public health target since the majority of ST users have a strong desire to quit, but many lack resources. We tested the impact of an interactive, tailored Web-based intervention (Enhanced Condition) versus a more linear, text-based website (Basic Condition) in a randomized trial with 2523 adult ST users. As is common in Internet-based research, there was considerable attrition: Follow-up rates at 3 months, 6 months, and for both 3 and 6 months were 48%, 45% and 34%, respectively. Results using repeated point prevalence of all tobacco use at 3 and 6 months showed that participants in the Enhanced Condition quit at significantly higher rates than those in the Basic Condition. Using a Complete Case analysis, abstinence was 40.6% in the Enhanced Condition vs. 21.2% in the Basic Condition ($p<.001$). Using intent-to-treat analysis, quit rates were 12.6% vs. 7.9%, respectively ($p<.001$). Similar results were obtained for only ST use. Unobtrusive measures of program exposure indicated that program use was significantly related to outcome as well as to attrition. We conclude that a tailored, interactive Web-assisted cessation program can be an efficacious method for assisting adult ST users to quit

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Ref ID: 412
Abstract: The purpose of this study was to evaluate the efficacy of a school-based smokeless tobacco (ST) and cigarette smoking prevention/cessation program. This multicomponent intervention program was delivered by regular classroom teachers or same age peer leaders, and was presented to intact classrooms in randomly assigned schoos. The program emphasised refusal skills training . A total of 2552 students in 13 middle schools and nine high schols began the study and 1768 were assessed at 1-year follow-up. The intervention had a beneficial effect of reducing ST use among males, especially at the middle school level. Analyses failed to reveal a positive intervention effect on cigarette smoking. Attrition analyses revealed few problems with internal validity, but strong and consistent differences between subjects available for follow-up assesment and those not assessed. These results provide limited support for the efficacy of the ST intervention program, but also suggest the need for different types of intervention programs capable of impacting a larger percentage of high risk adolescents

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(51) Severson HH, Andrews JA, Lichtenstein E, Gordon JS, Barckley M, Akers L. A self-help cessation program for smokeless tobacco users: comparison of two interventions. *Nicotine and tobacco research : official journal of the Society for Research on Nicotine and Tobacco* 2000; 2(4):363-370.
Ref ID: 849
Abstract: While the use of smokeless tobacco products has increased, there has been a paucity of research evaluating interventions to help users quit. This study is the first large-scale randomized trial evaluating two levels of self-help cessation intervention with adult smokeless tobacco (SLT) users. Smokeless users in five Northwest states were recruited to call a toll-free number and 1069 users were randomized to receive one of two interventions, Manual Only (MAN) or Assisted Self-Help (ASH), who received a video and two support phone calls in addition to the manual. The study demonstrated that low-cost minimal interventions done by mail and phone can help a sizable proportion of SLT users quit both SLT and all tobacco use. Follow-up data at 6 months showed that subjects in the ASH condition had a significantly higher quit rate for both smokeless (23.4% vs. 18.4%, $p < 0.05$) and all tobacco use (21.1% vs. 16.5%, $p < 0.05$), using an intent-to-treat model. Further analysis revealed that use of the recommended cessation procedures mediated the effect of intervention condition on outcomes. This may be the result of phone counselors getting subjects to carry out behavioral cessation procedures. Public health implications for this intervention are discussed

(52) Severson HH, Gordon JS, Boles SM, Danaher BG, Akers L. Chewfree.com: Results of a web-delivered smokeless tobacco cessation program (POS1-71). *Society for Research on Nicotine and Tobacco 12th Annual Meeting February 15 18, Orlando, Florida* 2006;58.
Ref ID: 131

(53) Severson HH, Andrews JA, Lichtenstein E, Gordon JS, Barckley MF. Clinical practice. Using the hygiene visit to deliver a tobacco cessation program: results of a randomized clinical trial. *Journal of the American Dental Association (JADA)* 1998; 129(7):993-999.
Ref ID: 1261
Abstract: To examine the effectiveness of advising patients who use tobacco to quit, the authors conducted a randomized clinical trial to test a brief office-based intervention with all tobacco users in 75 fee-for-service dental practices in Oregon. The authors found that the dental hygienist-delivered intervention was effective in getting smokeless tobacco users to quit at three and 12 months and to sustain abstinence at both three and 12 months. They found that the program was not effective for cigarette smokers. The authors discuss the public health implications of program dissemination and widespread program adoption

(54) Severson HH, Gordon J, Andrews J, Peterson AL, Cigrang J. Evaluating motivational interview phone support for smokeless tobacco cessation with military personnel (PA10-6). *Society for Research on Nicotine and Tobacco 12th Annual Meeting February 15 18, Orlando, Florida* 2006;34.
Ref ID: 138

(55) Severson HH, Akers L, Andrews JA, Lichtenstein E, Jerome A. Evaluating two self-help interventions for smokeless tobacco cessation. *Addict Behav* 2000; 25(3):465-470.
Ref ID: 854
Abstract: The need for effective, low-cost self-help treatment methods for smokeless tobacco (ST) addiction becomes more evident as rates of product use and associated morbidities increase. This study evaluated two self-help methods for ST cessation.

One hundred ninety-eight ST users were randomized into two conditions: half received the LifeSign, a credit card-sized computer designed for gradual ST cessation, and half received the Enough Snuff self-help manual and a video. Subjects in both conditions received telephone support for their quit effort. The study was conducted entirely through phone and mail, allowing delivery of the intervention to both rural and urban users. Self-reported rates of sustained abstinence (no tobacco use at two months and six months) were 24.5% for the manual/video condition, and 18.4% for the LifeSign condition. Copyright (C) 2000 Elsevier Science Ltd

(56) Severson HH, Lichtenstein E, Andrews JA, Akers L. Long-term cessation outcomes for a self-help smokeless tobacco intervention (POS4-23). *Society for Research on Nicotine and Tobacco 9th Annual Meeting February 19 22 New Orleans, Louisiana* 2003;87.
Ref ID: 189

(57) Severson HH, Danaher BG, Tyler M. Mylastdip.com: a web-based cessation program for young chewers. *Society for Research on Nicotine and Tobacco 16th Annual Meeting February 24 27 , Baltimore, Maryland* 2009;76.
Ref ID: 66

(58) Severson HH, Andrews JA, Lichtenstein E, Danaher BG, Akers L. Self-help cessation programs for smokeless tobacco users: Long-term follow-up of a randomized trial. *Nicotine and Tobacco Research* 2007; 9(2):281-289.
Ref ID: 725
Abstract: This paper presents long-term outcomes of the largest clinical trial of smokeless tobacco (SLT) cessation reported to date. SLT users in five northwestern states were recruited to call a toll-free number, and 1,069 users were randomized to one of two self-help conditions: either a manual-only condition or an assisted self-help condition, which included the manual, a targeted video, and two support phone calls. Significant between-group differences were not found for either the 12- or 18-month point-prevalence measure of abstinence from either SLT only or all tobacco products using outcomes based on either the responder or intention-to-treat outcomes. However, using a repeated point-prevalence measure across all three assessment points, we found that significantly more assisted self-help participants reported abstinence, compared with manual-only participants. Compared with manual-only participants, those in the assisted self-help condition were significantly more likely to use recommended cessation techniques. Results demonstrate that low-cost, minimal interventions delivered by mail and phone can help a sizable proportion of individuals quit using SLT

(59) Severson HH, Peterson AL, Andrews JA, Gordon JS, Cigrang JA, Danaher BG et al. Smokeless tobacco cessation in military personnel: A randomized controlled trial. *Nicotine and Tobacco Research* 2009; 11(6):730-738.
Ref ID: 658
Abstract: Introduction: Military personnel are twice as likely as civilians to use smokeless tobacco (ST). This study evaluated the efficacy of a minimal-contact ST cessation program in military personnel. Methods: Participants were recruited from 24 military dental clinics across the United States during annual dental examinations. Participants were 785 active-duty military personnel who were randomly assigned to receive a minimal-contact behavioral treatment (n = 392) or usual care (n = 393). The behavioral treatment included an ST cessation manual, a videotape cessation guide tailored for military personnel, and three 15-min telephone counseling sessions using motivational interviewing methods. Usual care consisted of standard procedures that are part of the annual dental examination, including recommendations to quit using ST and referral to extant local tobacco cessation programs. Participants were assessed at 3 and 6 months after enrollment. Results: Participants in the ST cessation program were significantly more likely to be abstinent from all tobacco, as assessed by repeated point prevalence at both 3 and 6 months (25.0%), and were significantly more likely to be abstinent from ST use for 6 months, as assessed by prolonged abstinence (16.8%), compared with participants in usual care (7.6% and 6.4%, respectively). Discussion: These results indicate that a minimal-contact behavioral treatment can significantly reduce ST use in military personnel and has the potential for widespread dissemination. If ST users were identified in dental visits

and routinely referred to telephone counseling, this could have a substantial benefit for the health and well-being of military personnel. The Author 2009. Published by Oxford University Press on behalf of the Society for Research on Nicotine and Tobacco. All rights reserved

(60) Severson HH, Akers L, Andrews JA, Lichtenstein E. Two self-help interventions for smokeless tobacco cessation. *10th World Conference on Tobacco or Health 24 28 August Beijing Abstract book* 1997;161.
Ref ID: 313

(61) Smith KD, Scott MA, Ketterman E. What interventions can help patients stop using chewing tobacco? *J Fam Pract* 2005; 54(4):368-369.
Ref ID: 784

(62) Stein-Seroussi A, Stockton L, Brodish P, Meyer M. Randomized controlled trial of the ACTION smoking cessation curriculum in tobacco-growing communities. *Addict Behav* 2009; 34(9):737-743.
Ref ID: 72
Abstract: We conducted a group randomized trial of an interactive, games-based, tobacco cessation program (ACTION) designed to help adolescents who live in tobacco-growing communities to stop using tobacco. More than 260 high school students participated in this study, in 14 schools across three states. We collected self-reported measures of cigarette and smokeless tobacco use and conducted biochemical validation of self-reported use at three time points (pre-test, immediate post-test, and 90-day follow-up). We used multi-level modeling to account for intraclass clustering at the school and classroom levels, and we analyzed our results using an intent-to-treat approach and a per protocol approach. Using the per protocol analytic approach, ACTION participants were more likely than comparison participants to achieve abstinence at 90-day follow-up. We found no program effects on our secondary outcomes or mediating factors. This study suggests that ACTION has promise as a relatively effective adolescent cessation program, although the overall limited effectiveness of cessation programs for adolescents must be acknowledged

(63) Stevens VJ, Severson H, Lichtenstein E, Little SJ, Leben J. Making the most of a teachable moment: a smokeless-tobacco cessation intervention in the dental office. *Am J Public Health* 1995; 85(2):231-235.
Ref ID: 339
Abstract: OBJECTIVES: Primary care medical clinics are good settings for smoking interventions. This study extends this strategy with a smokeless tobacco intervention delivered by dentists and dental hygienists in the course of routine dental care.METHODS: Male users of moist snuff and chewing tobacco (n = 518) were identified by questionnaire in clinic waiting rooms and then randomly assigned to either usual care or intervention. The intervention included a routine oral examination with special attention to the part of the mouth in which tobacco was kept and an explanation of the health risks of using smokeless tobacco. After receiving unequivocal advice to stop using tobacco, each patient viewed a 9-minute videotape, received a self-help manual, and was briefly counseled by the dental hygienist.RESULTS: Long-term success was defined as no smokeless tobacco use at both 3- and 12-month follow-ups, with those lost to follow-up counted as smokeless tobacco users. The intervention increased the proportion of patients who quit by about one half (12.5% vs 18.4%, P < .05).CONCLUSIONS: These results demonstrate the efficacy of a brief dental office intervention for the general population of smokeless tobacco users

(64) Stigler MH, Perry CL, Smolenski D, Arora M, Reddy KS. A mediation analysis of a tobacco prevention program for adolescents in India: How did project MYTRI work? *Health Educ Behav* 2011; 38(3):231-240.
Ref ID: 583
Abstract: This article presents the results of a mediation analysis of Project MYTRI (Mobilizing Youth for Tobacco Related Initiatives in India), a randomized, controlled trial of a multiple-component, school-based tobacco prevention program for sixth- to ninth-graders (n = 14,085) in Delhi and Chennai, India. A mediation analysis identifies how an intervention achieves its effects. In MYTRI, changes in students' (a) knowledge about the negative health effects of tobacco, (b) beliefs about its social

consequences, (c) reasons to use tobacco, (d) reasons not to use tobacco, (e) advocacy skills self-efficacy, and (f) normative beliefs about tobacco use were significantly associated with reductions in students' intentions to use tobacco and tobacco use behaviors. In contrast, changes in students' perceptions of the prevalence of smoking and chewing tobacco were significantly related to increases in students' intentions to use and use of tobacco. Implications for intervention design are considered. 2011 by SOPHE

(65) Stigler MH, Perry CL, Arora M, Shrivastav R, Mathur C, Reddy KS. Intermediate outcomes from Project MYTRI: mobilizing youth for tobacco-related initiatives in India. *Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology* 2007; 16(6):1050-1056.
Ref ID: 112
Abstract: The purpose of this article is to present the intermediate results for Project MYTRI, a school-based, multiple component intervention designed to prevent and reduce many forms of tobacco use (chewing tobacco, cigarettes, and bidis) among youth in India. The intervention is based on effective models in the United States "translated" for use in this context. The intervention targets two cohorts of students who were in the 6th and 8th grade when the study started. Thirty-two schools in Delhi (north India) and Chennai (south India) were randomized to receive the intervention (n = 16) or serve as a delayed intervention control (n = 16). Students in these schools were surveyed before the intervention began and at an intermediate point, 1 year into this 2-year intervention (n = 8,369). A test of the changes in risk factors for tobacco use between the baseline and intermediate surveys revealed that, compared with the control, students in the intervention condition (a) had better knowledge about the health effects of tobacco (P < 0.01); (b) believed that there were more negative social consequences to using tobacco (P = 0.04); (c) had fewer reasons to use tobacco (P < 0.01); (d) had more reasons not to use tobacco (P = 0.03); (e) were less socially susceptible to chewing (P = 0.04) and smoking (P = 0.03) tobacco; (f) perceived fewer peers and adults around them smoked (P < 0.01) or chewed (P < 0.01) tobacco; (g) felt that tobacco use was not acceptable, especially among their peers (P < 0.01); (h) were more confident in their ability to advocate for tobacco control (P = 0.03); (i) were more knowledgeable about tobacco control policies (P < 0.01); and (j) supported these policies, too (P = 0.04). Fewer students in the intervention condition reported having intentions to smoke tobacco in the next year (P = 0.02) or chew tobacco when they reached college (P < 0.01). No changes in actual tobacco use were observed at this stage of the study

(66) Stotts RC, Roberson PK, Hanna EY, Jones SK, Smith CK. A randomised clinical trial of nicotine patches for treatment of spit tobacco addiction among adolescents. *Tob Control* 2003; 12 Suppl 4:IV11-IV15.
Ref ID: 177
Abstract: BACKGROUND: This study tested the efficacy of nicotine patches in combination with behavioural therapy for the treatment of adolescent spit tobacco addiction. Prior interventions had resulted in mean cessation rates below 15% at one year.METHODS: This study, the PATCH Project, used a three group, placebo controlled, randomised clinical trial design. The control group received a standard 3-5 minute counselling followed by a two week follow up phone call. The two intervention groups received a six week behavioural intervention; in addition, one group received active nicotine patches while the other group received placebo patches. Both groups received quarterly stage based telephone counselling.RESULTS: At one year, the usual care group's spit tobacco cessation rate was 11.4% (exact 95% confidence interval (CI) 6.1% to 19.1%), placebo patch 25.0% (95% CI 16.9% to 34.7%), and the active patch 17.3% (95% CI 10.4% to 26.3%). When both patch groups were combined, the cessation rate was 21.2% (95% CI 15.7% to 27.6%). The cessation rates for active and placebo patch were not significantly different (exact two sided p = 0.22), while the combined patch groups had a significantly greater cessation rate than usual care (exact two sided p = 0.04).CONCLUSIONS: The behavioural intervention proved to be about twice as successful as previous interventions, but the nicotine patch offered no improvement in cessation rates. The behavioural intervention is based on publicly available materials and can be easily adapted for widespread use, particularly in high schools

(67) Stotts RC, Roberson PR, Hanna E, Jones S. Effectiveness of the nicotine patch in spit tobacco cessation with adolescents (PO2 24). *Society for Research on Nicotine and Tobacco 8th Annual Meeting; Feb 20 23 ; Savannah, Georgia* 2002;55.
Ref ID: 216

(68) Sussman S, Dent CW, Stacy AW, Sun P, Craig S, Simon TR et al. Project towards no tobacco use: 1-Year behavior outcomes. *Am J Public Health* 1993; 83(9):1245-1250.
Ref ID: 1226
Abstract: Objectives. We present 1-year follow-up data from a school-based tobacco use prevention project designed to test the effectiveness of three main components of social influence programs. The components teach refusal skills, awareness of social misperceptions about tobacco use, and misconceptions about physical consequences. Methods. Four different curricula were developed and tested in a randomized experiment involving 48 junior high schools. The outcome variables examined were changes in initial and weekly cigarette and smokeless tobacco use 1 year after the intervention. Results. Analyses indicated that each of the component programs were effective in decreasing both the initial and the weekly use of cigarettes except for the curriculum in which refusal skills were taught. Also, each curriculum was effective in decreasing the initial use of smokeless tobacco except for the one aimed at correcting social misperceptions. Only the combined curriculum showed an effect on the weekly use of smokeless tobacco. Conclusions. The combined intervention was the most effective overall in reducing the initial and weekly use of cigarettes and smokeless tobacco. This suggests that different reasons for use exist and need to be counteracted simultaneously. However, since single programs were also effective in reducing all but weekly smokeless tobacco use, any of these components may be worthwhile prevention tools

(69) Walsh MM, Hilton JF, Masouredis C, Gee L. A randomized controlled intervention trial to promote spit tobacco cessation among college athletes. (IADR Abstract 1995). *J Dent Res* 1995; 74(Special Issue - Abstracts of Papers 73rd General Session and Exhibition of the International Association for Dental research June 28-July 1, 1995 Singapore).
Ref ID: 328

(70) Walsh MM, Langer TJ, Kavanagh N, Mansell C, MacDougal W, Kavanagh C et al. Smokeless tobacco cessation cluster randomized trial with rural high school males: intervention interaction with baseline smoking. *Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco* 2010; 12(6):543-550.
Ref ID: 45
Abstract: INTRODUCTION: Adolescent males in rural areas use smokeless tobacco (ST). We assessed the efficacy of a school-based nurse-directed ST intervention among rural high school males.METHODS: Study high schools were randomly selected from a public high school list of California rural counties. Consenting high schools were stratified by school size and randomly assigned within strata to intervention or no-intervention groups. After gaining parental consent, male students completed baseline and 1-year follow-up questionnaires. The intervention included peer-led educational sessions and an oral exam by the school nurse who also provided brief tobacco cessation counseling. We used binary generalized estimating equation (GEE) models accounting for clustering within schools to test no difference between groups after adjusting for year in high school using both completers only and multiple imputation for those lost to follow-up. Subgroup analyses assessed Baseline Factor x Group interaction in GEE models.RESULTS: Twenty-one rural counties (72%), 41 randomly selected high schools (56%), and 4,731 male students (50%) participated with 65% retention. Nonsmoking ST users in the intervention group were significantly more likely to stop using ST at follow-up than those in the no-intervention group; there was no intervention effect among baseline ST users who also smoked. A higher percentage of baseline nonsmoking ST users reported smoking at follow-up than baseline non-ST-using smokers who reported using ST.DISCUSSION: A school-based nurse-directed ST cessation program was efficacious among rural nonsmoking ST-using high school males. The potential program

reach holds significant public health value. Baseline ST use facilitated smoking at follow-up

(71) Walsh MM, Hilton JF, Masouredis CM, Gee L, Chesney MA, Ernster VL. Smokeless tobacco cessation intervention for college athletes: Results after 1 year. *Am J Public Health* 1999; 89(2):228-234.
Ref ID: 869
Abstract: Objectives. The purpose of this study was to determine the efficacy of a college-based smokeless tobacco cessation intervention targeting college athletes. Methods. Sixteen colleges were matched for prevalence of smokeless tobacco use in their combined baseball and foot ball teams and randomly assigned within college pairs to the intervention or the control group. One year prevalence of cessation among smokeless tobacco users was determined by self-report of abstinence for the previous 30 days. Differences between groups were analyzed in a weighted version of the Fisher 1-sided permutation test for paired samples after adjustment for significant predictors of quitting other than the intervention (i.e., smokeless tobacco uses per week and most frequently used brand). Results. Cessation prevalences were 35% in the intervention colleges and 16% in the control colleges when subjects with unknown quit status were defined as nonquitters. After adjustment for other significant predictors of quitting, the difference of 19% increased to 21%. The intervention effect increased with level of smokeless tobacco use. Conclusions. This intervention was effective in promoting smokeless tobacco cessation, especially among those who were more frequent users

(72) Walsh MM, Hilton JF, Ellison JA, Gee L, Chesney MA, Tomar SL et al. Spit (Smokeless) Tobacco Intervention for High School Athletes: results after 1 year. *Addict Behav* 2003; 28(6):1095-1113.
Ref ID: 197
Abstract: OBJECTIVE: To determine the efficacy of a spit tobacco (ST) intervention designed to promote ST cessation and discourage ST initiation among male high school baseball athletes.METHODS: This study was a cluster-randomized controlled trial. Forty-four randomly selected high schools in rural California were randomized within strata (prevalence of ST use and number and size of baseball teams) to either the intervention or the control group. Ninety-three percent of eligible baseball athletes participated, yielding 516 subjects in 22 intervention schools and 568 subjects in 22 control schools. Prevalences of sustained ST cessation and ST use initiation over 1 year were assessed by self-report. Multivariate logistic regression models for clustered responses were used to test the null hypotheses of no association between group and the two outcomes, adjusted for the stratified design and baseline imbalances between groups in significant predictors of ST use.RESULTS: Prevalence of cessation was 27% in intervention high schools and 14% in control high schools (odds ratio (OR)=2.29; 95% confidence interval (CI), 1.36-3.87). The intervention was especially effective in promoting cessation among those who, at baseline, lacked confidence that they could quit (OR=6.4; 95% CI, 1.0-4.3), among freshmen (OR=15; 95% CI, 0.9-260), and among nonsmokers (OR=3.2; 95% CI, 0.9-11). There was no significant difference between groups in the prevalence of ST initiation.CONCLUSIONS: This intervention was effective in promoting ST cessation, but was ineffective in preventing initiation of ST use by nonusers

(73) Williams NJ. A smokeless tobacco cessation program for postsecondary students. *Dissertation Abstracts International* 1992; 53(6-A):1821.
Ref ID: 382

(74) Williams NJ, Arheart KL, Klesges R. A smokeless tobacco cessation program for postsecondary students. *Health Values* 1995; 19:33-42.
Ref ID: 329

Vedlegg

Søkestrategier

Systematisk litteratursøk

Prosjekt: **Snusavvenning**
Databaser: Ovid: Embase, Medline, PsycINFO. Cochrane Library: CDSR (Cochrane Database of Systematic Reviews), CENTRAL (Cochrane Central Register of Controlled Trials), Technology Assessments Database. Centre for Reviews and Dissemination (CRD): DARE (Database of Abstracts of Reviews of Effects). Web of Science (i Web of Knowledge), SveMed+, PubMed
Dato: 21.6.2012
Resultat: 76 Systematiske oversikter (SR, HTA)
833 Randomiserte kontrollerte studier (RCT)/kontrollerte studier
909 totalt (1298 inkl. duplikater)
Utført av: Ingrid Harboe, forskningsbibliotekar

Tegnforklaring:

/	Kode for MeSH (emneord); f.eks. Smokeless tobacco/
.tw	Text word (tekstord); søk etter tekstord i tittel, abstract, keyword
:ti,ab,kw	Søk etter tekstord i tittel, abstract, keyword (Cochrane Library)
*	Trunkering; søk etter flertall/ annen endelse av søkeordet

Database: Embase 1980 to 2012 Week 24
Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to Present, PsycINFO 1987 to June Week 2 2012 (kombinert søk)
Dato: 20.06.2012
Resultat: 58 Systematiske oversikter (SR)
617 Randomiserte kontrollerte studier (RCT)
Studiefilter SR: ”reviews (maximizes specificity)”; spesifikt
RCT: "therapy (best balance of sensitivity and specificity)", medium spesifikt

Searches		Results
1	smokeless tobacco/	5499
2	Tobacco, Smokeless/ use prmz [kode: Medline]	2539
3	(chewing tobacco* or oral tobacco* or spit tobacco* or smokeless tobacco* or snuff* or snus* or quid* or chew* or plug*).tw.	56101
4	or/1-3	57384

5	"Tobacco Use Cessation"/ use prmz	579
6	("abstain* from" or "break* off" or cessation* or cease or ceasing or "cut* out" or discontinu* or end or ending or finish or "give up" or halt or halting or pause or quit* or respite or stop* or suspend* or terminat*).tw.	1929779
7	tobacco dependence/dt, th use emez [Drug Therapy, Therapy]	3592
8	tobacco dependence/pc, rh use emez [Prevention, Rehabilitation]	1313
9	"Tobacco Use Cessation Products"/ use prmz	271
10	smoking cessation/	56319
11	or/5-10	1950035
12	4 and 11	6385
13	limit 12 to "reviews (maximizes specificity)"	84
14	12 and systematic* review*.tw.	36
15	13 or 14	89
16	remove duplicates from 15	58
17	limit 12 to "therapy (best balance of sensitivity and specificity)"	962
18	remove duplicates from 17	617
19	18 use emez [kode: Embase]	453
20	18 use prmz	67
21	18 not (19 or 20)	97
22	16 use emez	33
23	16 use prmz	15
24	22 or 23	48
25	16 not 24	10

Database: Cochrane Library
Dato: 20.06.2012
Results: 16 Systematiske oversikter (CDSR)
516 Kontrollerte studier (CENTRAL)

Søk:

#1	MeSH descriptor Tobacco, Smokeless, this term only	97
#2	(chewing tobacco* or oral tobacco* or spit tobacco* or smokeless tobacco* or snuff* or snus* or quid* or chew* or plug*):ti,ab,kw	1950
#3	(#1 OR #2)	1950
#4	MeSH descriptor Tobacco Use Cessation explode all trees	2572
#5	("abstain* from" or "break* off" or cessation* or cease or ceasing or "cut* out" or discontinu* or end or ending or finish or "give up" or halt or halting or pause or quit* or respite or stop or suspend or terminat*):ti,ab,kw	74785
#6	MeSH descriptor Tobacco Use Cessation Products explode all trees	65
#7	(#4 OR #5 OR #6)	74785
#8	(#3 AND #7)	541

Database: **CRD DARE** (Database of Abstracts of Reviews of Effects)
Dato: 20.06.2012
Result: 27 Systematiske oversikter
Søk:

1	MeSH DESCRIPTOR Tobacco, Smokeless	5
2	("chewing tobacco*" or "oral tobacco*" or "spit tobacco*" or "smokeless tobacco*" or snuff* or snus* or quid* or chew* or plug*).)	138
3	(("abstain* from" or "break* off" or cessation* or cease or ceasing or "cut* out" or discontinu* or end or ending or finish or "give up" or halt or halting or pause or quit* or respite or stop* or suspend* or terminat*).)	7316
4	MeSH DESCRIPTOR Tobacco Use Cessation EXPLODE ALL TREES	324
5	#1 OR #2	139
6	#3 OR #4	7316
7	#5 AND #6	36
8	(#7) IN DARE, HTA	27

Database: **Web of Science**
Dato: 21.06.2012
Resultat: 35 (Systematiske) oversikter
Søk: Topic=(smokeless tobacco) AND Topic=(cessation) AND Document Types=(Review) Timespan=All Years. Databases=SCI-EXPANDED, SSCI

Datebase: **SveMed+**
Dato: 21.6.2012
Resultat: 4 Oversikter
11 Enkeltstudier

Sök:		Antal träffar
1	smokeless tobacco OR snus OR exp:"Tobacco, Smokeless"	140
2	cessation OR tobacco cessation OR exp:"Smoking Cessation" Limits: doctype:"översikt"	40
3	#1AND #2 oversikter	4
4	#1 AND #2 artikler	11

Database: **PubMed**
Dato: 21.06.2012
Resultat: 1 unik systematisk oversikt
Søk: Smokeless tobacco cessation and Systematic Review / Clinical study
Limit: 2012