

Screening and Brief Intervention for Patients with Tobacco and At-risk Alcohol Use in a Dental Setting

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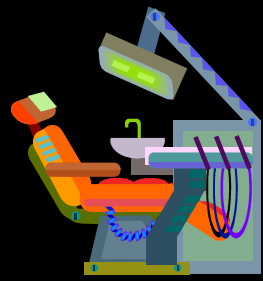
Project Staff & Sponsorship

▶ Project Staff

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Project Aims



- ▶ To evaluate the efficacy of screening and brief intervention (SBI) for smokers and at-risk drinkers when delivered separately and in combination
- ▶ To compare the effects of simultaneous versus sequential delivery of brief intervention

Public Health Burden of Tobacco and At-risk Alcohol Use

- ▶ Smoking and alcohol misuse are two of the leading causes of preventable morbidity and premature morbidity in the U.S. (*McGinnis & Foege, 1993; Mokdad et al., 2004*)
- ▶ Effects on oral health are largely neglected in public health discussions even though they contribute to a wide range of damage in and around the oral cavity (*Petersen, 2003*)

Oral Health Problems Associated with Tobacco and Risky Alcohol Use

Tobacco Use

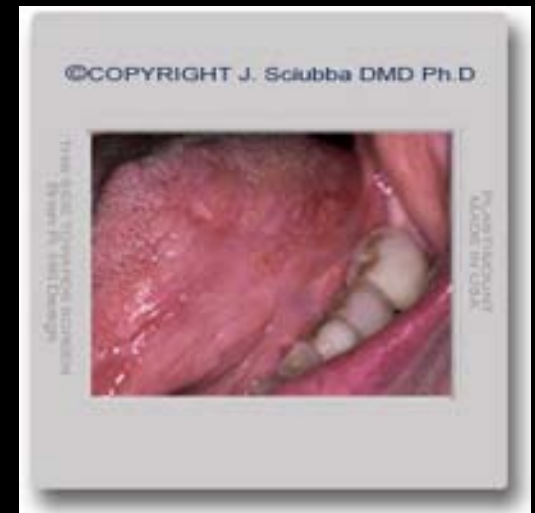
- Oral/Pharyngeal cancers
- Periodontal disease
- Tooth loss
- Caries
- Gingival recession, pigmentation
- Delayed wound healing
- Sinusitis
- Oral mucosal lesions/Leukoplakia

At-risk Alcohol Use

- Oral/Pharyngeal cancers
- Tooth Loss
- Periodontal disease
- Caries

Oral Health Effects of Combined Tobacco & Alcohol Misuse

- ▶ When alcohol and tobacco are used in combination, oropharyngeal cancer risk is greater than the independent effects of these substances
- ▶ Their joint effect appears to be multiplicative



Rationale for Combining Interventions



- ▶ Smoking is very common in heavy drinkers thereby creating economies of scale in detection and intervention
- ▶ Brief intervention packages are similar, making it efficient to train health care providers in both methods at the same time
- ▶ Smoking and drinking provide reciprocal cues to each other, thereby making it difficult to change one behavior without modifying the other

Simultaneous vs. Sequential Intervention?

- ▶ Research has provided little information on the most effective timing for approaching multiple behavior change counseling in clinical settings
- ▶ Simultaneous interventions may be too overwhelming for the patient, too time demanding for the provider and may fail to address any single behavior in sufficient depth
- ▶ On the other hand, motivational constructs for the co-occurring behaviors also cluster, implying that if interventions succeed in changing the determinant of the behavior, determinants of other related behaviors might also change
 - Alcohol and nicotine may act, in part, on the same brain pathways involved in reward and craving arguing for simultaneous treatment

Study Design (handout)



Follow-up Rates and Outcome Measures

▶ Rates

- 3-month post randomization (80% F/up)
- 6-month post randomization (72% F/up)

▶ Outcome Measures

- Reduction in self-reported number of cigarettes per day
- Reduction in self-reported number of standard alcohol drinks per week
- Self-reported smoking abstinence (past 7 days)
- Change in risk category for alcohol use (from moderate risk to low risk)

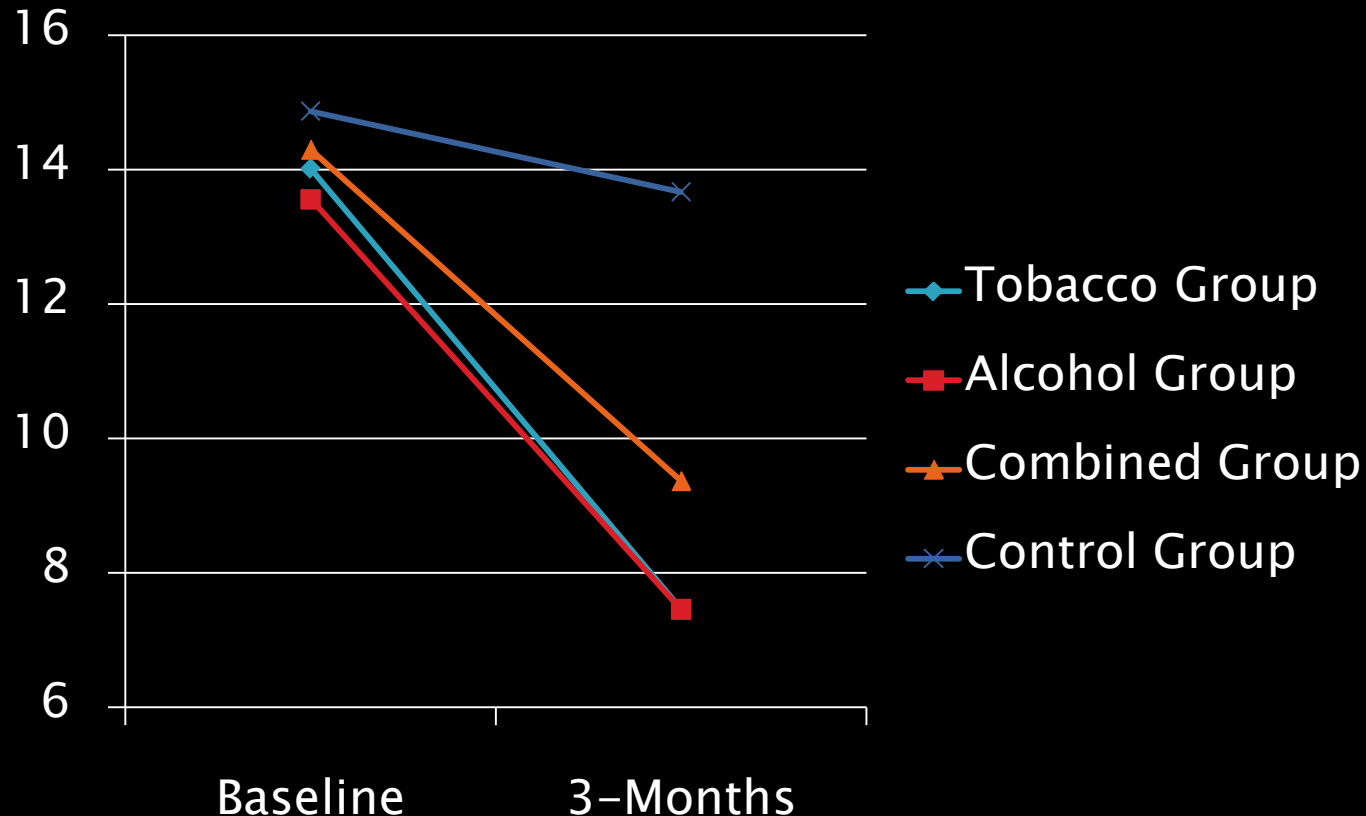
Demographic Characteristics of Randomized Sample (N=288)

Variable	
Age, Mean (SD)	32.9 (9.9)
Years of Education, Mean (SD)	12.2 (1.8)
Gender (% Male)	54.9
Race %	
Caucasian, non-Hispanic	67.7
African American	13.9
Hispanic	14.2
Employed %	
Full time	53.7
Part time	14.8
Unemployed	21.4
Retired, disabled, student, etc.	10.0
Medicaid or Uninsured %	70.0

Substance Use Characteristics of Randomized Sample (N=288)

Variable	Mean (SD)
Drinks per week (Males)	14.3 (12.5)
(Females)	16.7 (13.6)
AUDIT Score*	11.3 (10.2)
(Males)	11.1 (4.7)
(Females)	11.7 (4.8)
Cigarettes per day (Males)	10.37 (4.5)
(Females)	19.8 (10.1)
FTND Score**	21.1 (10.7)
(Males)	18.3 (9.0)
(Females)	4.7 (2.5)
	4.8 (2.5)
	4.7 (2.5)
*AUDIT Score: 0-40	
**FTND Score: 0-10	

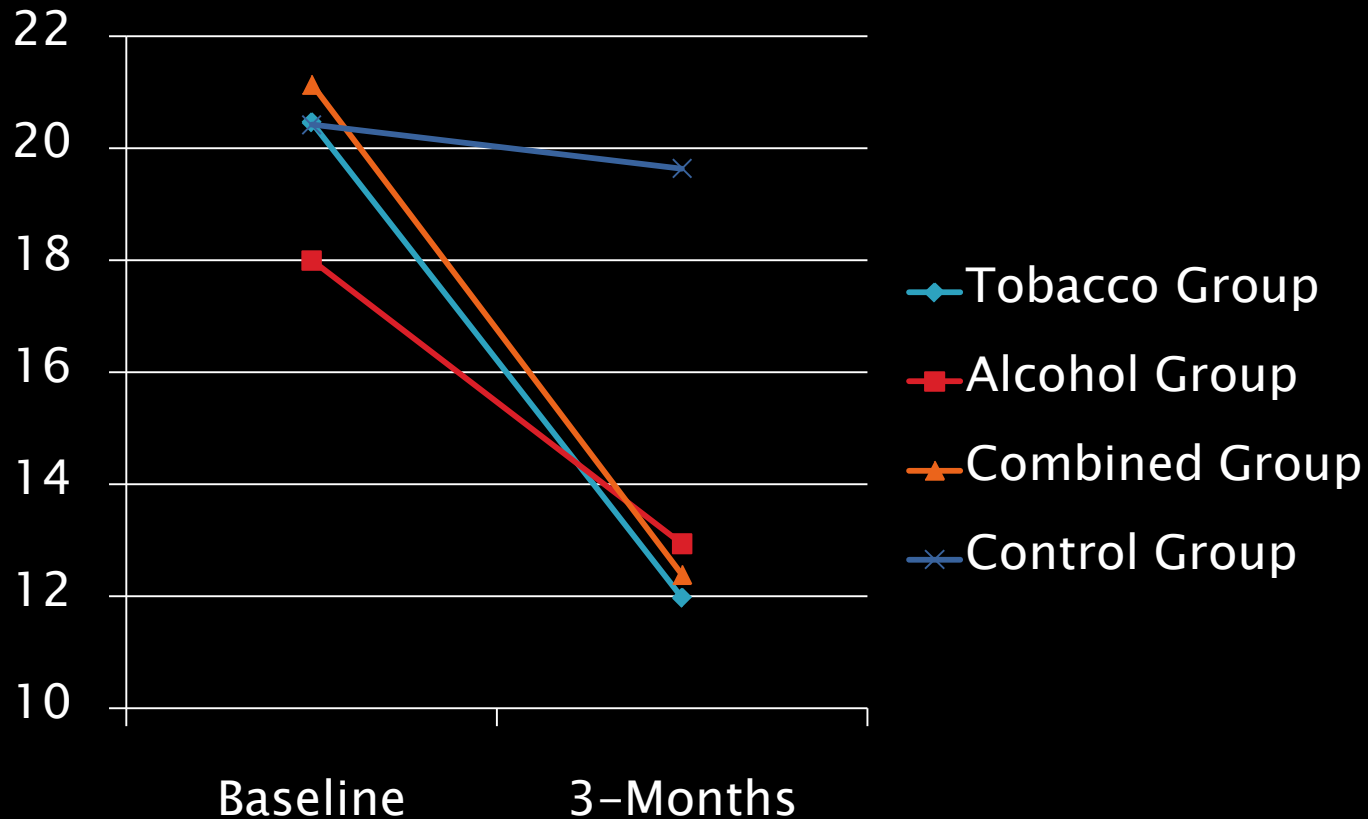
Mean Number of Drinks per Week*, Baseline to 3-Months (N=229)



**Raw, unadjusted means*

*Alcohol BI X Tobacco BI X Time:
F = 10.18, p = .002*

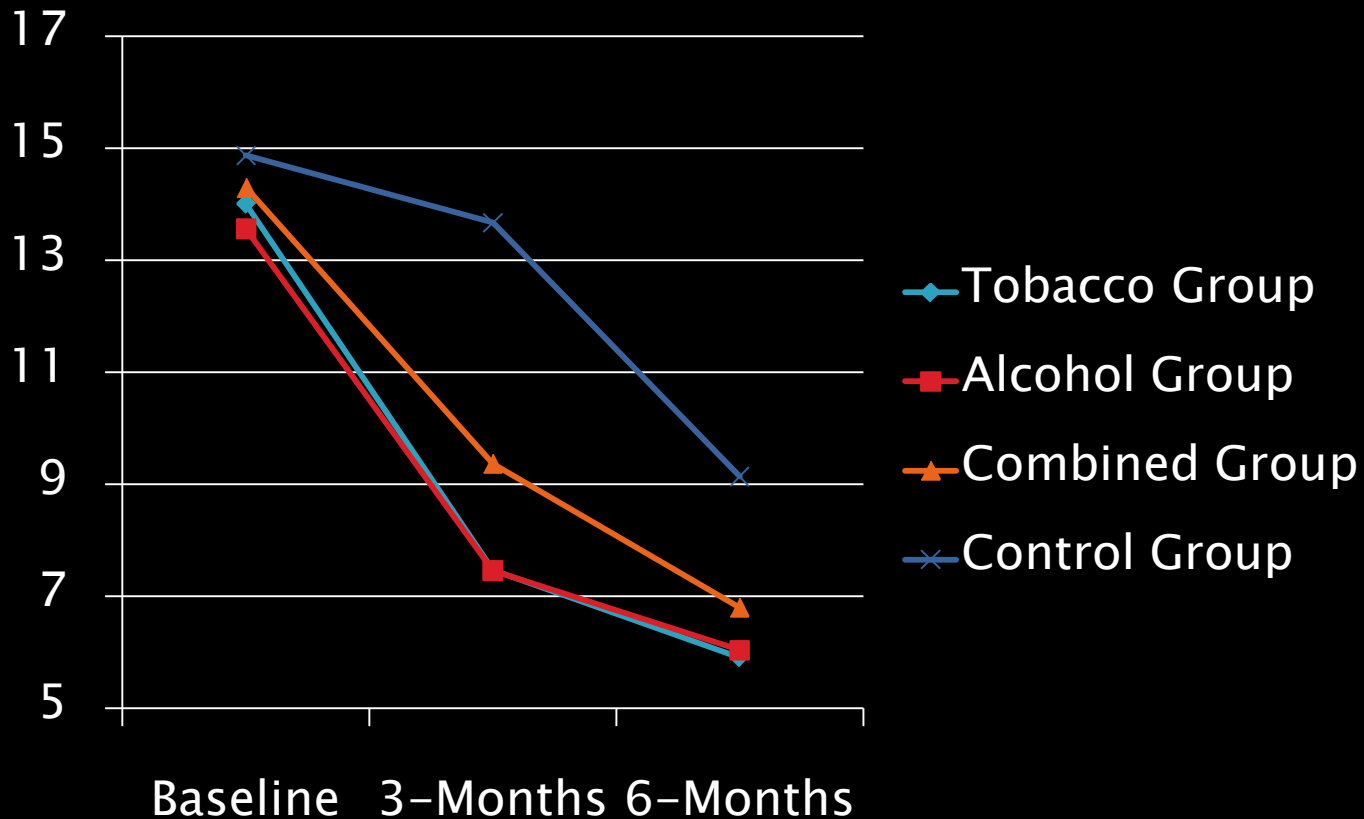
Mean Number of Cigarettes Smoked per Day* , Baseline to 3-Months (N=229)



*Raw, unadjusted means

Alcohol BI X Tobacco BI X Time:
 $F = 4.85$ $p = .029$

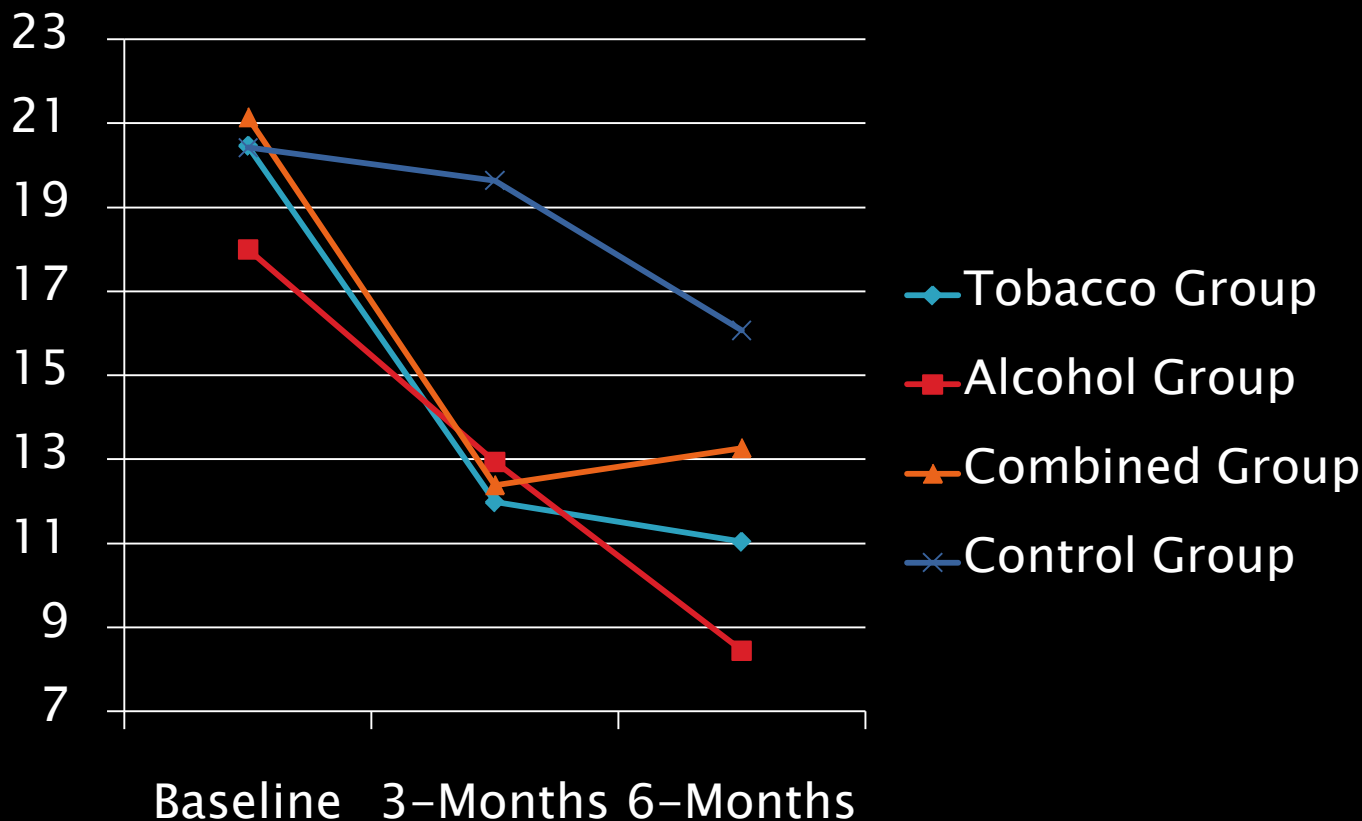
Mean Number of Drinks per Week*, Baseline, 3 Months and 6 Months (N=208)



**Raw, unadjusted means*

*Alcohol BI X Tobacco BI X Time,
Quadratic: $F = 6.89, p = .009$*

Mean Number of Cigarettes Smoked per Day*, Baseline, 3 Months and 6 Months (N=208)



*Raw, unadjusted means

Alcohol BI X Tobacco BI X Time,
Linear: $F = 4.50, p = .035$

Low-risk Drinking Rates at 3-Month and 6-Month for Followed Participants

	3-Months (N=229)	6-Months (N=208)
Tobacco BI Group	49.1%	55.6%
Alcohol BI Group	41.1%	57.4%
Combined BI Group	49.2%	53.2%
Control Group	22.6%	37.8%
	$\chi^2 = 12.43; p = .006$	$\chi^2 = 4.49; p = .213$

Tobacco Quit Rates at 3-Month and 6-Month for Followed Participants

	3-Months (N=229)	6-Months (N=208)
Tobacco BI Group	24.6%	29.6%
Alcohol BI Group	14.3%	19.1%
Combined BI Group	20.6%	25.8%
Control Group	0.0%	8.9%
	$\chi^2=14.79; p=.002$	$\chi^2=7.16; p=.067$

Summary of Results

- ▶ Results indicate the individuals who are smokers and at-risk drinkers reduced both risk behaviors simultaneously when one or both were the subject of an office-based brief intervention.
- ▶ There does not seem to be an advantage to the combined intervention when compared to the single substance interventions
 - Individuals changed both behaviors regardless of the treatment intervention received

Implications

- ▶ Results have implications for the design of clinical interventions
 - Findings imply that no matter where a provider starts with respect to behavior change focus, he or she may affect change in patients across multiple substance use behaviors
 - An intervention might encourage patients to understand the interconnectedness of substance use behavior and present the information as part of the feedback to motivate change

Thank-you!

