



**Karolinska  
Institutet**

**Effectiveness of a brief counselling for tobacco  
cessation among Swedish smokers and *snus* users  
attending dental clinics  
A cluster randomized controlled trial**

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# Background

- Quitting tobacco use decreases the risk for negative health outcomes considerably.
- Many users try to quit: in Sweden 73% of smokers and 42% of *snus* users are willing to quit.
- Both Swedish and international guidelines promote tobacco use cessation in all health care settings.

# Background

- Dental care has been shown to be a promising setting for tobacco use cessation
- In Sweden 88% of adults visit dental care at least every two years
- The oral health consequences caused by tobacco use give legitimacy for dental care professionals to offer cessation advice
- Still, tobacco cessation strategies are not widely used in dental care

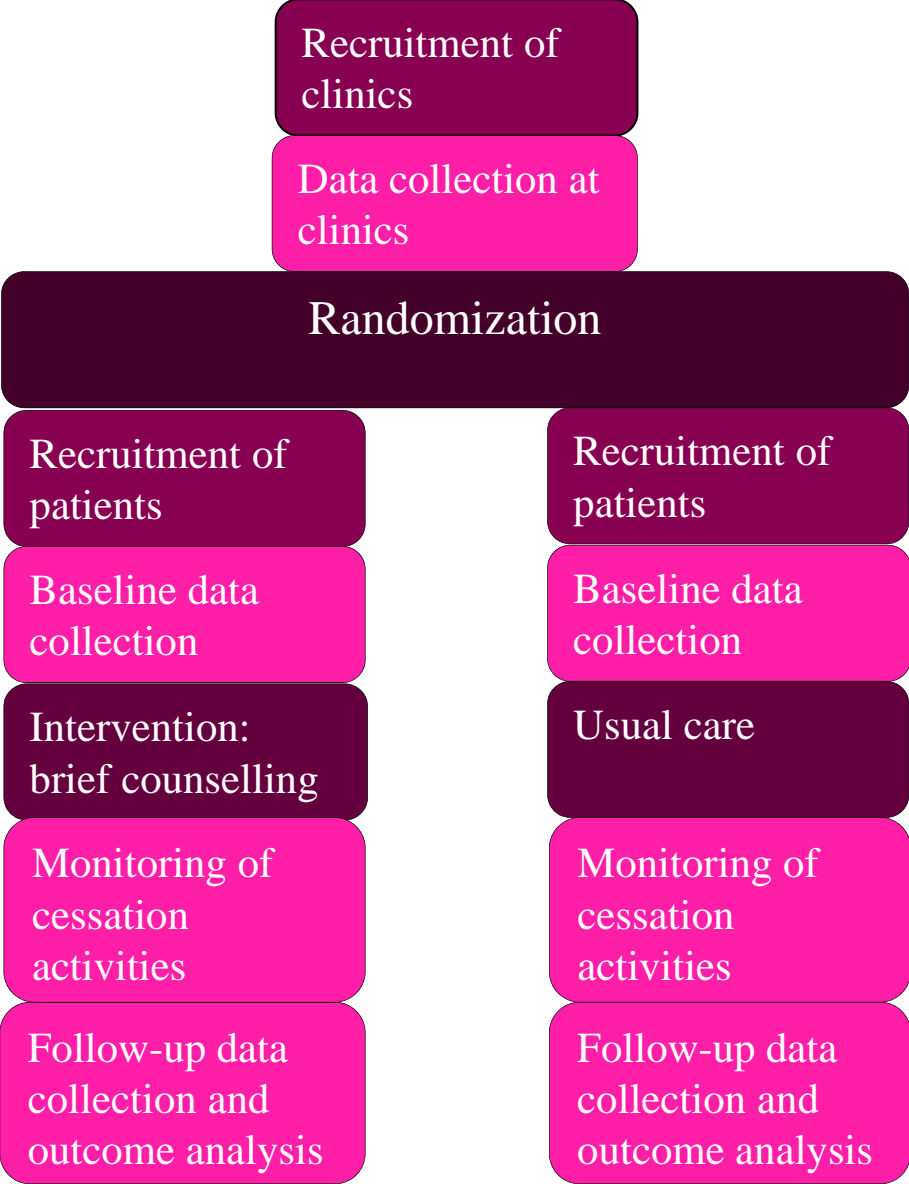
# Background

- To explore the potential of dental care setting in the tobacco cessation, the Swedish Government requested the Public Health Agency of Sweden to design an intervention that could be delivered in the frame of the ordinary activities of the dental clinics in Sweden.
- The Department of Public Health at Karolinska Institutet was assigned the task to evaluate the effectiveness of the intervention in order to decide whether it should be implemented.

# Aim

- To determine the effectiveness of a brief counselling intervention for tobacco cessation in the setting of dental care clinics.

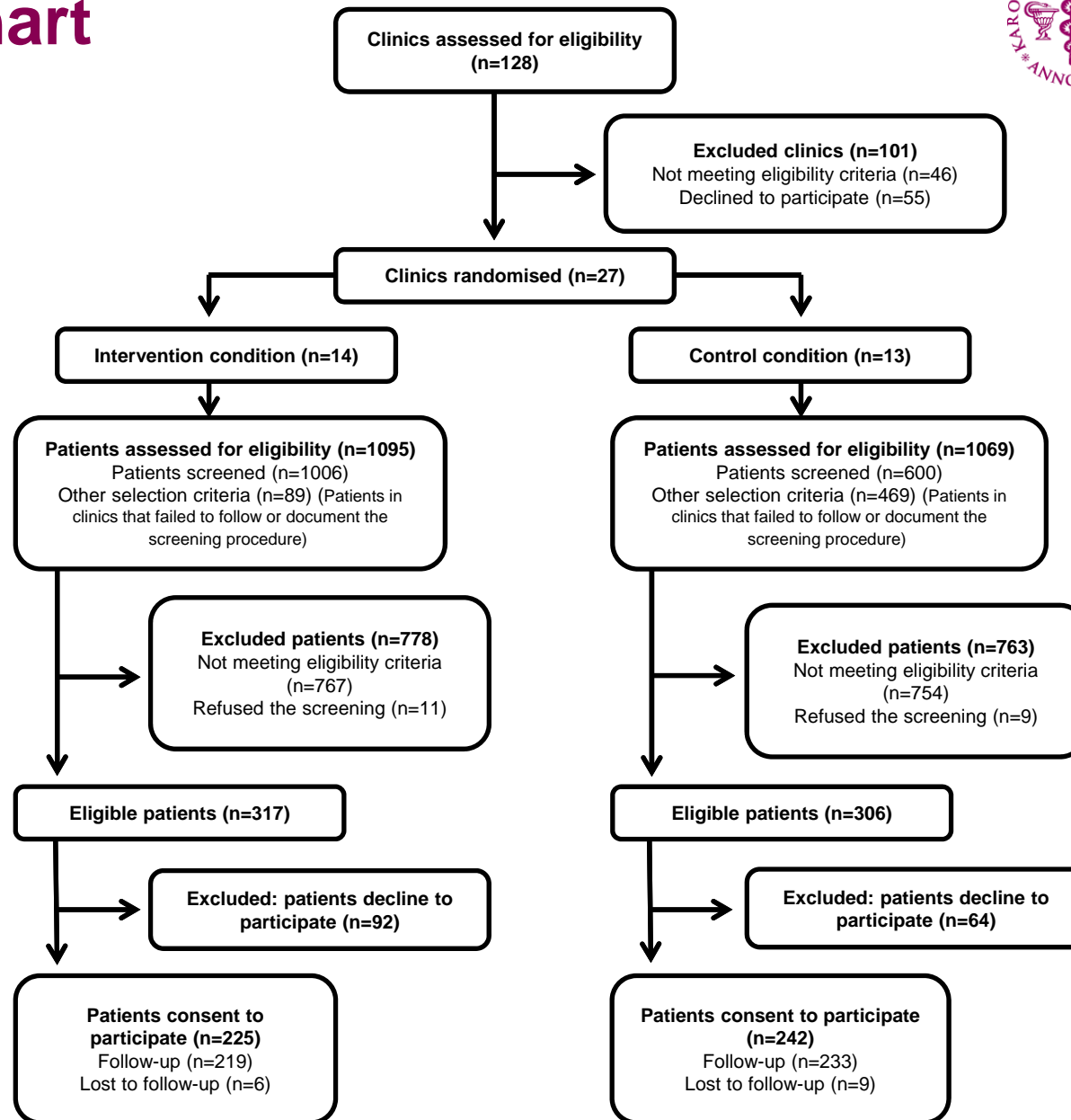
# Methods



# Outcomes

- Primary outcome: abstinence from tobacco during the seven days preceding the follow-up survey (7-day abstinence)
  
- Secondary outcomes:
  - 1) sustained abstinence from all tobacco during the three months preceding the survey, (3-month abstinence)
  - 2) reduction by half on the number of cigarettes smoked or *snus* portions used daily compared to baseline, (half-reduction)
  - 3) quit attempts lasting at least 24 hours in the course of follow-up (quit attempts)

# Flow chart





# Characteristics of the participating clinics

	Intervention clinics (n= 13 clinics) <sup>a</sup>		Control clinics (n= 13 clinics)	
	%	mean	%	mean
<b>Number of personnel and patients</b>				
Number of dentists at the clinics		4.6		7.5
Number of dental hygienists at the clinics		6.1		7.2
Number of other personnel at the clinics		5.7		10.1
Number of adult patients who visited the clinics in 2011		4565		8472
Number of completed visits by adult patients in 2011		8824		14140
<b>Clinical practice</b>				
Specialized dental care: No	77		46	
Specialized dental care: Yes	23		54	
<b>Routines concerning patients' tobacco use</b>				
Guidelines for tobacco cessation				
No	38		46	
Only for dental hygienists	8		8	
Only for dentists	0		0	
For both dental hygienists and dentists	54		46	
Number of personnel trained in tobacco cessation		1.6		2.0
Clinics with personnel trained in tobacco cessation	46		54	

<sup>a</sup> Information for one of the clinics is missing

# Demographic baseline characteristics of the study participants

		Control (n=242)	Intervention (n=225)	Total	p-value (2-sided)
<b>Gender</b> n (proportion)	Female	84 (34.7%)	87 (38.7%)	171 (36.6%)	.375
	Male	158 (65.3%)	138 (61.3%)	296 (63.4%)	
<b>Age</b> n (proportion)	18-29	44 (18.2%)	55 (24.4%)	99 (21.2%)	.486
	30-39	27 (11.2%)	26 (11.6%)	53 (11.3%)	
	40-49	53 (21.9%)	50 (22.2%)	103 (22.1%)	
	50-59	68 (28.1%)	55 (24.4%)	123 (26.3%)	
	60+	50 (20.7%)	39 (17.3%)	89 (19.1%)	
mean (std. deviation)		47.07 (14.83)	43.95 (14.87)	45.57 (14.91)	<b>.024</b>
<b>Education</b> n (proportion)	Elementary	51 (23.6%)	39 (18.6%)	90 (21.1%)	.444
	Secondary	128 (59.3%)	133 (63.3%)	261 (61.3%)	
	Post-Secondary	37 (17.1%)	38 (18.1%)	75 (17.6%)	
<b>Occupation</b> n (proportion)	Employed	135 (59.7%)	145 (65.3%)	280 (62.5%)	.474
	Self-Employed	22 (9.7%)	19 (8.6%)	41 (9.2%)	
	Not employed	69 (30.5%)	58 (26.1%)	127 (28.3%)	
<b>Civil status</b> n (proportion)	Unmarried	113 (50.4%)	125 (55.8%)	238 (53.1%)	.655
	Married	84 (37.5%)	72 (32.1%)	156 (34.8%)	
	Divorced/Separated	20 (8.9%)	19 (8.5%)	39 (8.7%)	
	Widow/Widower	7 (3.1%)	8 (3.6%)	15 (3.3%)	
<b>Any chronic disease</b> n (proportion)	No	153 (68.3%)	161 (71.6%)	314 (69.9%)	.452
	Yes	71 (31.7%)	64 (28.4%)	135 (30.1%)	

# Tobacco use baseline characteristics

		Control (n=242)	Intervention (n=225)	Total	p- valu e
<b>Type of tobacco used</b> n (proportion)	Snus	103 (44.0%)	97 (43.1%)	200 (43.6%)	.267
	Smoking	115 (49.1%)	103 (45.8%)	218 (47.5%)	
	Snus & Smoking	16 (6.8%)	25 (11.1%)	41 (8.9%)	
<b>Duration of tobacco use in years</b> n (proportion)	<5	12 (5.2%)	15 (6.7%)	27 (5.9%)	.199
	5 -10	41 (17.7%)	48 (21.3%)	89 (19.5%)	
	11 - 20	35 (15.2%)	45 (20.0%)	80 (17.5%)	
	21+	143 (61.9%)	117 (52.0%)	260 (57.0%)	
mean (std. deviation)		25.58 (13.99)	23.26 (13.99)	24.43 (14.02)	.078
<b>Previous attempts to quit smoking or snus use, total number</b> n (proportion)	0	35 (15.0%)	26 (11.6%)	61 (13.3%)	.122
	1 -2	68 (29.1%)	52 (23.1%)	120 (26.1%)	
	3+	131 (56.0%)	147 (65.3%)	278 (60.6%)	
<b>Time from wake-up to nicotine use</b> n (proportion)	< 5 min	23 (10.2%)	31 (13.8%)	54 (12.0%)	.639
	6 – 30 min	104 (46.2%)	105 (46.7%)	209 (46.4%)	
	31 – 60 min	70 (31.1%)	62 (27.6%)	132 (29.3%)	
	1+ hour	28 (12.4%)	27 (12.0%)	55 (12.2%)	
<b>Intention of quitting tobacco</b> n (proportion)	< 6 months	39 (17.3%)	46 (20.5%)	85 (18.9%)	.513
	6+ months	46 (20.4%)	38 (17.0%)	84 (18.7%)	
	Not decided	140 (62.2%)	140 (62.5%)	280 (62.4%)	
<b>Amount of tobacco use</b> n (proportion)	< 5	9 (3.8%)	11 (4.9%)	20 (4.4%)	.671
	5 - 10	108 (46.2%)	107 (47.6%)	215 (46.8%)	
	11 - 20	103 (44.0%)	89 (39.6%)	192 (41.8%)	
	21+	14 (6.0%)	18 (8.0%)	32 (7.0%)	
mean (std. deviation)		12.42 (6.98)	12.62 (6.88)	12.52 (6.92)	.756

# Intervention effect

	Participants in the control condition: with the outcome/ number analysed	Participants in the intervention condition: with the outcome/ number analysed	OR (95%CI) <sup>a</sup> Crude	OR (95%CI) <sup>a</sup> Adjusted for age <sup>b</sup>
<b>7-day abstinence</b>	14/233	18/219	<u>1.40 (0.68-2.89)</u>	1.43 (0.69-2.96)
<b>3-month abstinence</b>	8/233	11/219	<u>1.49 (0.59-3.77)</u>	1.46 (0.57-3.72)
<b>Half-reduction</b>	32/225	56/219	<u><b>2.07 (1.28-3.35)</b></u>	<b>2.09 (1.28-3.39)</b>
<b>Quit attempts</b>	100/233	111/219	<u>1.37 (0.94-2.00)</u>	1.30 (0.89-1.91)

<sup>a</sup> Reference category: control condition

<sup>b</sup> Entered as continuous variable

# Intervention effect, stratified by tobacco type

	Smokers <sup>b</sup>			
	Participants in the control condition: with the outcome/ number analysed	Participants in the intervention condition: with the outcome/ number analysed	OR (95%CI) <sup>a</sup> Crude	OR (95%CI) <sup>a</sup> Adjusted for age <sup>d</sup>
<b>7-day abstinence</b>	9/109	8/100	0.97 (0.36-2.61)	1.03 (0.38-2.82)
<b>3-month abstinence</b>	5/109	4/100	0.87 (0.23-3.33)	0.86 (0.22-3.31)
<b>Half-reduction</b>	18/109	27/100	1.87 (0.96-3.66)	1.85 (0.94-3.62)
<b>Quit attempts</b>	58/109	53/100	0.99 (0.57-1.71)	0.94 (0.54-1.63)
	Snus users <sup>c</sup>			
	Participants in the control condition: with the outcome/ number analysed	Participants in the intervention condition: with the outcome/ number analysed	OR (95%CI) <sup>a</sup> Crude	OR (95%CI) <sup>a</sup> Adjusted for age <sup>d</sup>
<b>7-day abstinence</b>	4/100	9/94	2.54 (0.76-8.54)	2.48 (0.74-8.39)
<b>3-month abstinence</b>	2/100	7/94	3.94 (0.80-19.48)	3.92 (0.79-19.46)
<b>Half-reduction</b>	12/100	25/94	<b>2.66 (1.25-5.66)</b>	<b>2.79 (1.30-6.00)</b>
<b>Quit attempts</b>	29/100	40/94	1.82 (0.99-3.32)	1.69 (0.90-3.15)

<sup>a</sup> Reference category: control condition

<sup>c</sup> Includes only snus users, no double users

<sup>b</sup> Includes only smokers, no double users

<sup>d</sup> Entered as continuous variable

# Main findings

- Intervention effect not significant for the primary outcome, *7-day abstinence*
- Intervention had significant effect for the secondary outcome *half-reduction*
- The effect on tobacco use seemed to be due to changes among *snus* users
- In general, the current intervention showed not the same effect as in previous studies, though the direction was similar
  - Comparison is difficult due to varying interventions and selection of participants

# Strengths and limitations

- Main strengths:
  - Design
  - Very low attrition rate
  
- Main limitations:
  - Known allocation at the time of the patient recruitment, and the violation of the recruitment protocol in some dental clinics
  - Use of only self-reported data

Generalizability?

**THANK YOU!**