

Harm Reduction Nicotine

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That humanity at large will ever be able to dispense with Artificial Paradises seems very unlikely. Most men and women lead lives at the worst so painful, at the best so monotonous, poor and limited that the urge to escape, the longing to transcend themselves if only for a few moments, is and has always been one of the principal appetites of the soul.

Aldous Huxley

CULTURAL DRUGS

- ALCOHOL, BEER, WINE, HARD LIQUER
- CAFFEINE, SODA, TEA, COFFEE
- NICOTINE, CLEAN NIC. SMOKEFREE, CIGARETTES

Semi cultural

- THC, marijuana etc

Nicotine/Tobacco is an ideal area for harm reduction.

Used largely because of nicotine.

Pure nicotine, and even unburned tobacco, is not a big part of the problem: the health consequences.

DEGREE OF HARM FROM NICOTINE CONTAINING PRODUCTS

NRT

SMOKEFREE (INDIA)

CIGARETTES

SMOKEFREE (SNUS)

MODIF. CIG.

WHO ICD-10 Tobacco Dependence F 17

Criteria. Three need to be present for a diagnosis

A Strong desire to smoke

B. Difficulties to control the amount

C. Continued use despite harmful consequences

D. Influencing priorities of other activities

E. Increased tolerance

F. Physical withdrawal

The only indication for treatments; CESSATION

Aid to cessation

MoA: Reducing withdrawal symptoms

Several effective treatments:

Nicotine Replacement

Bupropion

Varenicline

(Nortriptyline)

Harm Reduction history with tobacco

- Filters
 - Light
-] Tobacco Industry

Proposals by scientists

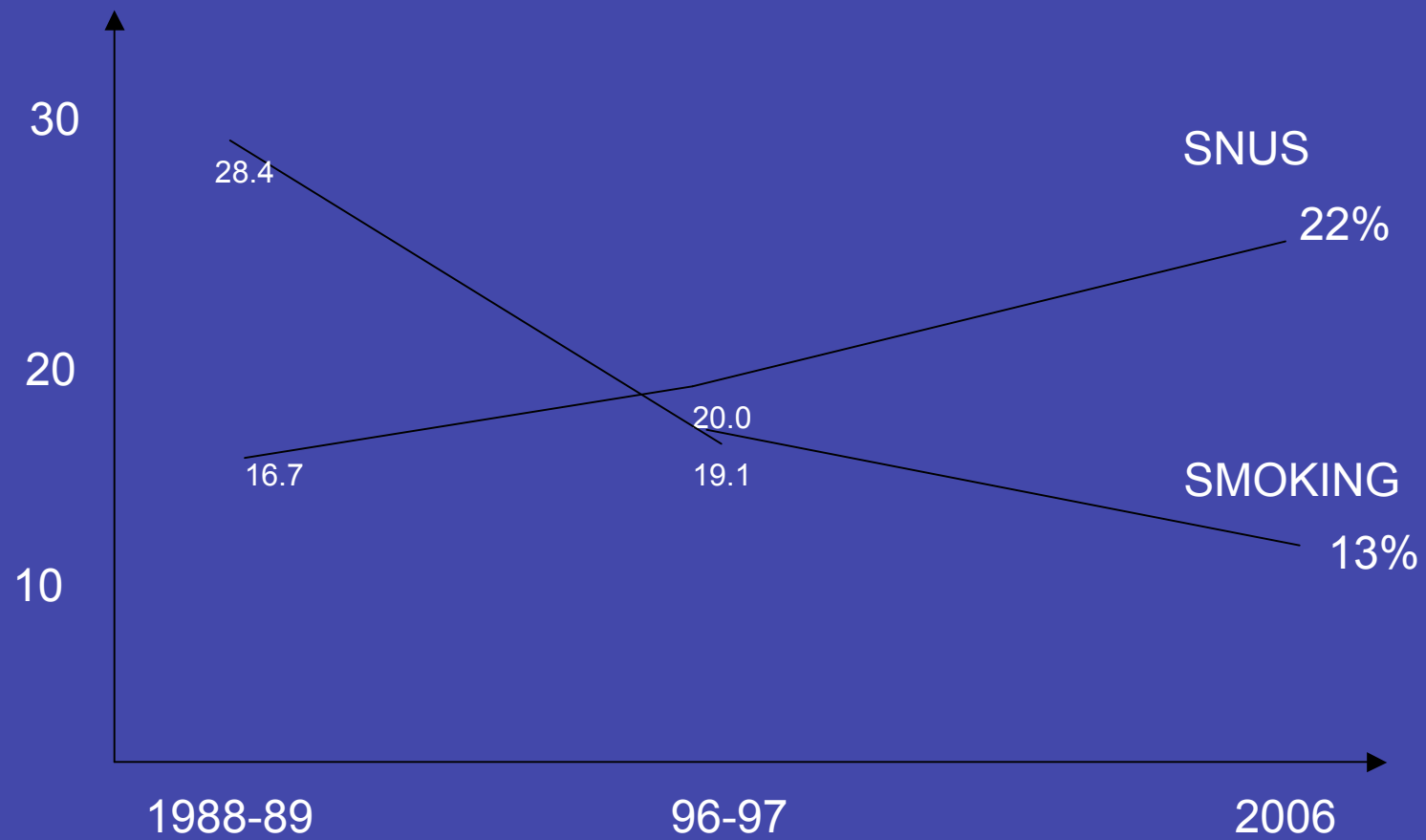
- Higher nicotine ratio *Russell*
- Progressive decrease of nicotine
Benowitz, Henningfield

Tobacco activists largely against
Harm Reduction

The Swedish Experience



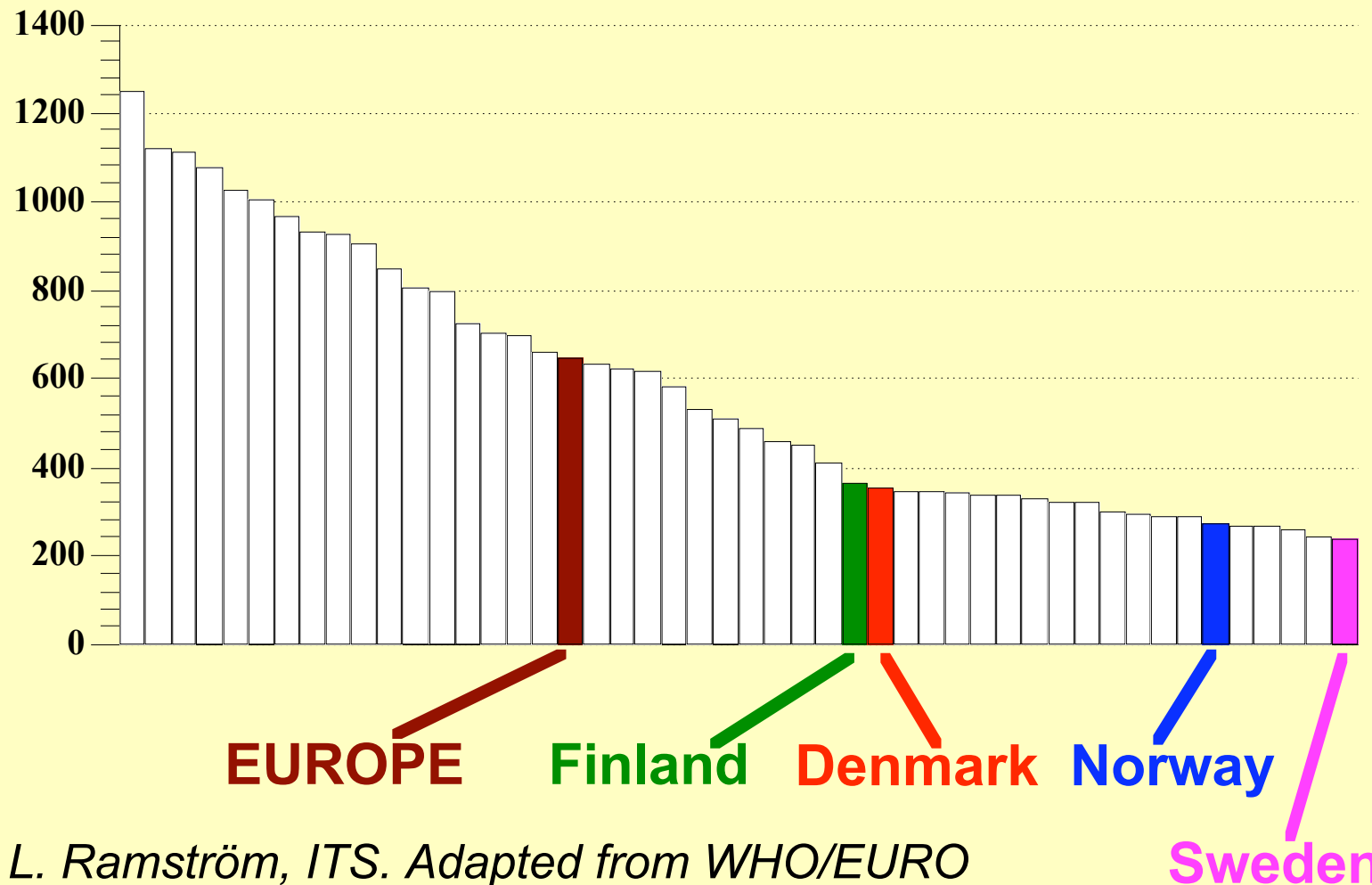
Prevalence of smoking and snus use in Swedish men



Data Statistics Sweden 88-89 and 96-97, Public Health Institute 2007

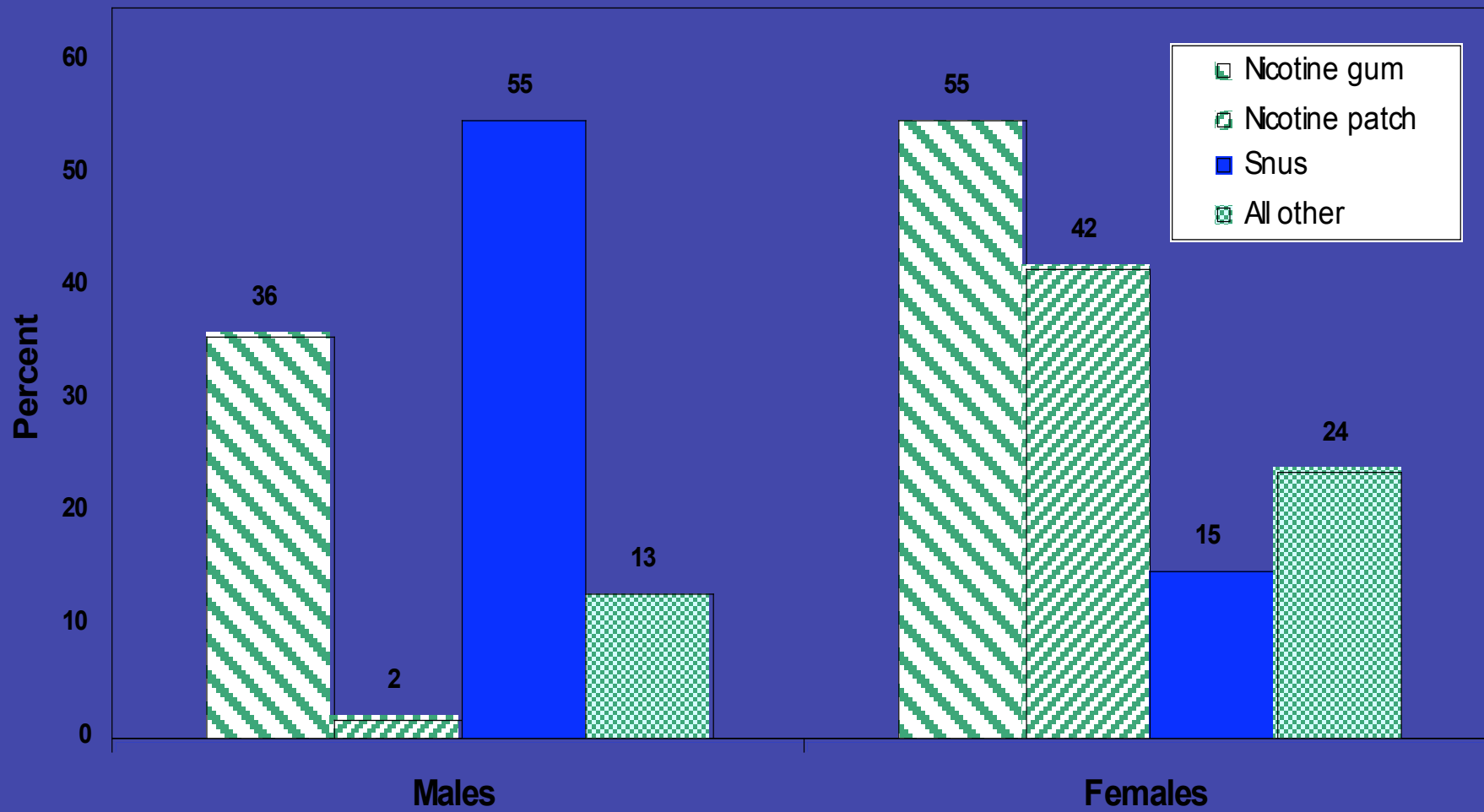
1995

SDR all causes, 0-64, per 100000, male



L. Ramström, ITS. Adapted from WHO/EURO

CESSATION AID AT THE LATEST QUIT SMOKING ATTEMPT



Ramstrom and Foulds 2007

Use of different aids in latest quit attempt. 895 triers from a population sample.

	Men	Women
Nicotine gum	162	240
patch	90	182
lozenges	12	30
spray	4	6
inhaler	14	31
Nicotine total	282	489
Snus (Smokeless)	254	66
Bupropion (Zyban)	8	9

Outcome of latest quit attempt

Quit

Reduced to occational

Gum	42%	8%
Patch	30%	3%
NRT total	36%	5%
Snus	61%	13%

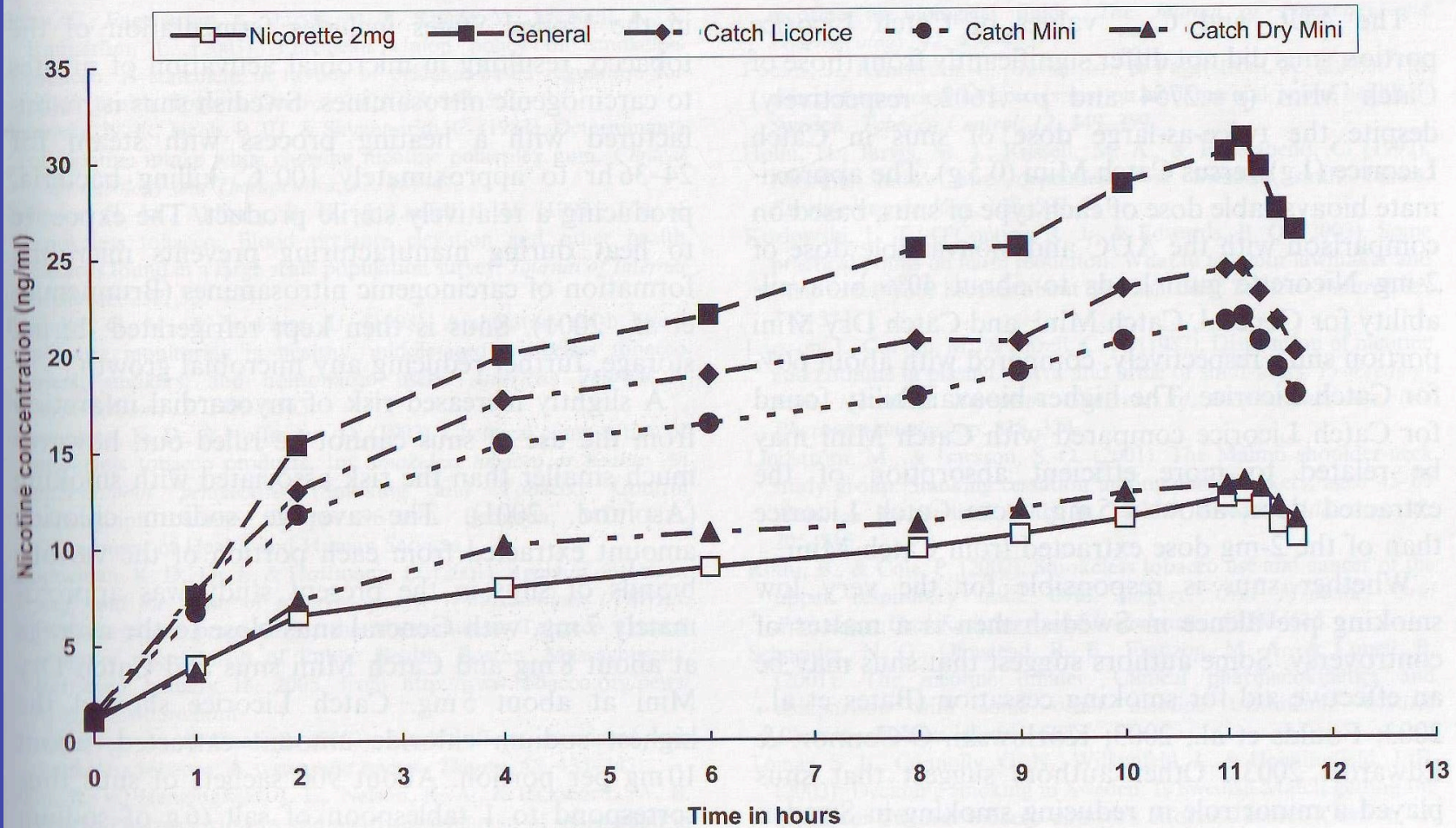


Figure 1. Mean nicotine plasma concentration–time curves obtained following hourly use of four different brands of Swedish snus and 2-mg Nicorette chewing gum.

Similarities

- Compulsive use
- Use despite harm
- Highly conditionable
- Impaired control
- Rapid relapse
- Rapid reinstatement
- Reinforcer in animals
- Subjective effects
- Withdrawal
- Dopaminergic

Diff with alcohol/opiates

- Not causing mental dis
- Dependence rare in non-daily users
- No behav intoxication
- Little euphoria

Rankings of dependence criteria

Criterion	Basis	Nicotine	Alcohol	Opiate	Cocaine
Tolerance (Kalant, 71)	Subjective	3	4	4	3
Withdrawal (Hughes, 94)	Subjective	2	4	3	1
Difficulty abstaining (Hunt,71)	Data	4	4	4	4
Liking by non-abusers (Surgeon-General, 88)	DATA	2	3	2	4
Animal self- administration (Surgeon-General, 88)	Subjective	2	2	3	4

Hughes 2006

Dependence criteria continued

	Basis	Nicotine	Alcohol	Opiates	Cocaine
Prevalence of dependence (Anthony, 94)	Data	4	3	1	2
Dependence among users (Anthony, 99)	Data	4	3	1	2
Self reported addictiveness (Kozlowski, 89)	Data	4	1	3	2
Behavioral disruption (Hughes, 01)	Subjective	1	4	3	2

Hughes 2006

Is "pure or clean" nicotine
addictive?

- No epidemic use of pure nicotine
- No misuse of nicotine replacement
- Nicotine not a strong reinforcer in animals
(McDonald et al 1997).
- Human i.v. self-administration studies not very convincing (Henningfield & Goldberg 1983, Henningfield et al 1983).
- Human self-administration of NR not very convincing
(Patch, e.g. Benowitz et al. 1998, Gum, e.g. Hughes et al 2000, Spray, e.g. Perkins et al 2001).
- Other pharmacologically active substances in tobacco, CO, MAO-inhibitors (Fowler et al 2003), Acetaldehyde (Castagnoli 2001).

Future Smokers

- More dependent Fagerström and Furberg 2008
- More co-morbidity Fagersström et al 2007
- Lower social class Jarvis et al

Thank You

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