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Changes in main CVD risk factors in Finland 1992–2017

P. Jousilahti, T. Laatikainen, T. Harkanen, K. Borodulin, K. Harald, S. Koskinen, S. Mannisto, M. Peltonen, J. Sundvall, L. Valsta, E. Vartiainen

National Institute for Health and Welfare-THL, Helsinki, Finland

Background: Systematic monitoring of cardiovascular disease (CVD) risk factors started in eastern Finland already in the 1970s as part of the North Karelia Project. Later on risk factor monitoring was extended to other parts of the country.

Purpose: In this study we report the trends of main CVD risk factors in Finland from 1992 to 2017.

Methods: Study population consists of a population-based random sample of 31 402 men and women aged 25–64 years who participated in the FINRISK Studies from 1992 to 2012, and in the FinHealth Study in 2017. Data collection was done every five years. Participation rate decreased from 76% in 1992 to 56% in 2017. Study protocol included self-reported questionnaire data on smoking and other health behavior, measurements

of height, weight and blood pressure, and venous blood sample for laboratory analysis. Blood pressure was measured two times, and the average of the measurements was calculated, total serum cholesterol was analyzed using enzymatic method, and LDL cholesterol was calculated using Friedewald formula.

Results: Smoking prevalence, mean blood pressure and total and LDL cholesterol levels declined markedly during the 25 year follow up but BMI, waist circumference and prevalence of obesity increased (table).

Conclusions: The levels of main traditional CVD risk factors have markedly decreased among the Finnish population during the last 25 years but in the same time, obesity has become a major public health challenge.

CVD risk factor change from 1992 to 2017

Risk factor	Men 1992	Men 2017	p value	Women 1992	Women 2017	p value
Smoking (%)	36.7	20.6	<0.001	25.9	16.5	<0.001
SBP (mmHg)	136.6	131.2	<0.001	130.3	124.5	<0.001
DBP (mmHg)	82.7	81.6	<0.001	78.6	77.8	<0.001
Chol (mmol/L)	5.66	5.17	<0.001	5.42	5.18	<0.001
LDL chol (mmol/L)	3.54	3.16	<0.001	3.26	3.03	<0.001
BMI (kg/m ²)	26.2	27.2	<0.001	25.1	26.4	<0.001
WC (cm)	92.8	96.1	<0.001	79.2	86.2	<0.001
Obesity (%)	15.7	23.2	<0.001	14.8	22.7	<0.001