



The targets set by WHO to reduce blood pressure will not be reached without nutritional changes and more effective care

Key Findings

- The WHO target of a 25% reduction in the prevalence of high blood pressure is achievable, but it requires both nutritional changes among the population and more effective care.
- The diagnostics and care of high blood pressure should be accelerated in order to better reach the objectives of good care.
- Salt intake remains high in Finland, and the WHO goal of a 30% decrease requires active measures in various societal sectors.

INTRODUCTION

The World Health Organization (WHO) has published its action plan for the prevention and control of noncommunicable diseases for 2013–2020. The action plan includes proposals for health policy and practical action. The objective is for the member states to reach as many as possible of the nine international targets pertaining to the prevention and treatment of noncommunicable diseases by the year 2025. The attainment of the said targets is being monitored through 25 indicators, which represent risk of premature mortality, levels of noncommunicable disease risk and protective factors as well as the potential for and realisation of prevention and treatment. The baseline of the monitoring is year 2010.

The WHO action plan is primarily focused on four important disease groups: cardiovascular diseases, cancer, diabetes and chronic respiratory diseases. Disease prevention focuses on lifestyle factors: smoking, unhealthy diet, lack of physical activity, and harmful use of alcohol.

An evaluation has been conducted in Finland on the current state and previous development of noncommunicable diseases and their risk factors to estimate how realistic the targets set by WHO are for Finland. At the same time, national challenges have been identified along with possibilities for improving the prevention of noncommunicable diseases.

This “Data Brief” publication reports WHO’s targets for high blood pressure (objective 6), its treatment (objective 8), and salt intake (objective 4), as well as their respective indicators.

HYPERTENSION IN FINLAND

The blood-pressure levels of Finns have been monitored since the 1970s through projects like the North Karelia project follow-up, the MONICA project of WHO and the FINRISK study, as well as the Autoklinikka, Mini-Suomi, Terveys 2000 and Terveys 2011 studies. Blood pressure has declined drastically since the 1970s. Between 2000 and 2012, the blood pressures of under 45s stopped declining, but the blood pressures of the 45+ continued to decline, albeit more slowly. Between 2002 and 2007, the diastolic pressure of men and women between the ages of 25 and 64 stopped decreasing, and in the last five years it started to increase.

There has been a significant reduction in the percentage of people with high blood pressure (a minimum blood pressure of 140 mmHg and/or 90 mmHg) from the 1970s. This trend continued strongest until the early 2000s. Since then, the growth has slowed down. In 2011, 38% of women and 39% of men over 30 clocked high values.

The proportion of the population with high blood pressure or using anti-hypertensive drugs revealed by studies has also decreased. The decrease was strongest in the 1980s and 1990s. In 2011, 46% of women and 53% of men over 30 were hypertensive.

The number of men and women using anti-hypertensive drugs has increased in the last decades. In 2000, it was approximately 670,000 and in 2011 approximately 1 million.

Authors:

Tiina Laatikainen

Professor, THL and University of Eastern Finland

Antti Jula

Research Professor, THL

Pekka Jousilahti

Research Professor, THL

WHO targets for 2010–2025

1. A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes and chronic respiratory diseases.
2. At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context.
3. A 10% relative reduction in prevalence of insufficient physical activity.
4. A 30% relative reduction in mean population intake of salt/sodium.
5. A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years.
6. A 25% relative reduction in the prevalence of raised blood pressure.
7. Halt the rise in diabetes and obesity.
8. At least 50% of eligible people receive drug therapy and counselling to prevent heart attacks and strokes
9. An 80% availability of the affordable basic technologies and essential medicines required to treat major non-communicable diseases.

WHO indicators for blood pressure and salt intake

Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years

Age-standardized prevalence of raised blood pressure among persons aged 18+ years (defined as systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg) and mean systolic blood pressure

Proportion of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk $\geq 30\%$, including those with existing cardiovascular disease) receiving drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes

It should be noted that these indicators cannot be created from the Finnish information sources exactly in the same form.

In the year 2000, 450,000 persons were entitled to special reimbursements for anti-hypertensive drugs. By the year 2012, the number had risen to 490,000. The care for milder hypertension in accordance with recommendations has increased by approximately 50% in 10 years. The care for more serious hypertension meeting the special reimbursement requirements set by the Social Insurance Institution of Finland has increased by 10%.

There has also been a significant improvement in meeting treatment targets since the 1980s. In 2011, 50% of men and 44% of women receiving care met the target of $<140/90$ mmHg.

It should be kept in mind that estimates based on general population surveys on the prevalence of high blood pressure and meeting treatment targets are suggestive only, because for the purposes of the survey, high blood pressure is measured during one visit only. However, the measurement and classification results from different survey years are comparable.

WHO OBJECTIVE FOR HYPERTENSION PREVALENCE

The objective set in the WHO action plan (objective 6) is to reduce the share of the population suffering from hypertension to 25%. In Finland, a 25% reduction among the 30+ population compared with the situation in 2011 would mean that the share of women with high blood pressure would reduce from 38% to 28%. For men, the respective figures would be 39% and 29%. Figure 1 shows the projected change in the prevalence of high blood pressure among those aged 25–64.

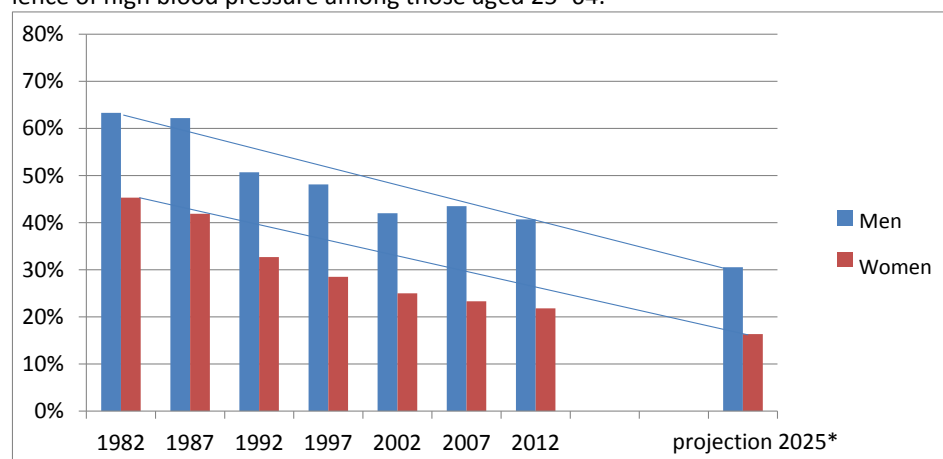


Figure 1.

The prevalence of high blood pressure (in the study, over 140 mmHg and/or 90 mmHg) among Finns aged 25–64 in the FIN-RISK Study, and the projection for 2025 (*25% drop from 2012) in accordance with the WHO target.

WHO TARGET FOR TREATMENT OF BLOOD PRESSURE

The objective set in the WHO implementation programme (objective 8) is that a minimum of 50% of patients with an indication of drug treatment are receiving treatment and life-style guidance to prevent heart attacks and acute cerebrovascular events. On average, one out of two of 30+ hypertensive men and women receive drug treatment. The treatment prevalence increases with age. In the 30–44 age group of hypertensive men and women, 18% of men and 36% of women receive drug treatment. For the respective 45–54 age group, 33% of men and 41% of women receive drug treatment. Among the 65+, the figure is as high as 70%. For Finland, this would mean increasing drug treatment among the younger age groups.

The materials used

This analysis has utilised FINRISK and FINDIET survey materials from 1982 to 2012, as well as the results of the Health 2000 and Health 2011 surveys.

Over the course of these surveys, blood pressure has been measured using a mercury sphygmomanometer from the right arm with the patient in a sitting position after a minimum of 5 minutes of rest.

The salt intake data are based on the FINDIET survey, which has been conducted with a 33% subgroup during the FINRISK survey since 1982. The salt intake data are based on 48-hour dietary recalls.

The drug treatment data are based on the register data of the Social Insurance Institution of Finland.

SALT INTAKE IN FINLAND

The key nutritional factor affecting blood pressure is the intake of salt. The daily intake of salt was very high in Finland in the late 1970s, but there has been a significant drop both in men and women until 2007. Between 2007 and 2012, the daily intake of salt for men increased from 9.3 grams to 10.0 grams. For women, the respective increase was from 6.8 grams to 7.0 grams.

WHO TARGET FOR SALT INTAKE

The target set in the WHO action plan (objective 4) is to reduce the average salt intake of the population by 30% by comparison to the offset. For Finland, this would mean reducing the average daily intake of salt from 10 grams to 7 grams amongst the male population and from approximately 7 grams to approximately 5 grams amongst the female population. The average intake of salt amongst the male population would still exceed the recommended intake of 5 grams per day. The average intake of salt amongst the female population would decrease close to the recommended level.

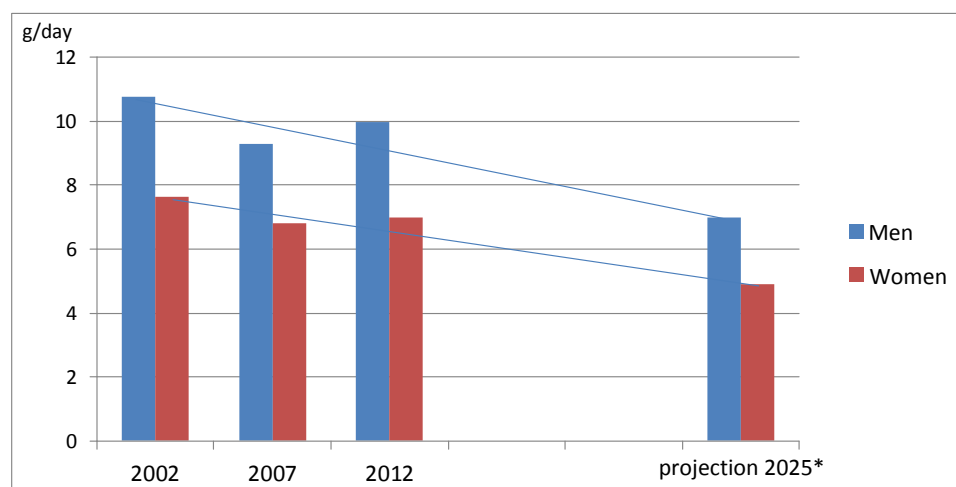


Figure 2. Salt intake amongst men and women aged 25–64 in the National FINDIET survey and the projection until 2025 in accordance with the WHO target (*30% reduction in the daily salt intake from 2012).

DISCUSSION

Blood pressure trends in Finland have been positive for a long time. Should the trend witnessed in the 1980s and 1990s continue, the 25% reduction in the prevalence of high blood pressure could well be reached by the year 2025 in accordance with the WHO targets. However, there have been signs during the last decade indicating that the decline in blood pressure levels is ceasing. Similarly, there has not been any significant decline in the percentage of the hypertensive population. In order to reach the target set by WHO, blood pressure levels must be reduced on the population level, and the effectiveness of hypertension care must be improved.

On the population level, the key life-style factor influencing blood pressure is the intake of salt. In Finland, there has been a significant decline in the intake of salt since the 1970s. However, there have been signs during the last five years indicating that this positive trend has stopped, and even that salt intake is on the rise again. To reach the goals set in the WHO action plan, the salt intake of the population should resume its decline to the same degree as in the 1990s and early 2000s.

BIBLIOGRAPHY

Helldán A, Raulio S, Kosola M, Tapanainen H, Ovaskainen M-L, Virtanen S. The FINDIET 2012 survey. National Institute for Health and Welfare. Report 16/2013. Read here: <http://urn.fi/URN:ISBN:978-952-245-951-0>

Hypertension (online). Current Care Guidelines. A work group set by Duodecim and Finnish Hypertension Society. Helsinki. Duodecim, 2014 (referenced on 3/3/2015). Online: www.käypähoito.fi

Koskinen S, Lundqvist A, Ristiluoma N (ed.). Terveys, toimintakyky ja hyvinvointi Suomessa 2011. THL raportti 68/2012. http://www.julkari.fi/bitstream/handle/10024/90832/Rap068_2012_netto.pdf?sequence=1

Laatikainen T, Jula A, Salomaa V. Verenpaine Suomessa – FINRISKI-tutkimuksen tuloksia. Research in a Nutshell 2, November 2012. National Institute for Health and Welfare (THL), Helsinki.

Laatikainen T, Jula A, Kastarinen M, Salomaa V, Borodulin K, Harald K, Peltonen M, Jousilahti P, Vartiainen E. Verenpaineaset ja hoitotasapaino FINRISK -tutkimusalueilla 1982-2012. Suomen Lääkärilehti 2013;24:1803-1809.

Laatikainen T, Pietinen P, Valsta L, Sundvall J, Reinivuo H, Tuomilehto J. Sodium in the Finnish Diet: 20-year trends in urinary salt excretion among adult population. Eur J Clin Nutr 2006;60(8):965-970.

WHO. Global action plan for the prevention and control of non-communicable diseases 2013-2020. WHO, Geneva, 2013.

National Institute for Health and Welfare
P.O.BOX 30 (Mannerheimintie 166)
FI-00271 Helsinki, Finland
Tel. +358 29 524 6000

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For men, the targeted 3 gram decrease in the daily salt intake would lower the systolic blood pressure of the population by approximately 2.9 mmHg and the diastolic blood pressure by approximately 1.7 mmHg. This decrease would also have a significant impact on that part of the population suffering from hypertension. For women, a 2.1 gram decrease in the daily salt intake would result approximately in a 2.1 mmHg decrease in the systolic and a 1.3 mmHg decrease in diastolic blood pressure. The effect of lower salt intake starting at childhood on the decline in blood pressure in adulthood would probably be significantly greater than the above figures.

In addition to the intake of salt, blood pressure at the population level is affected by overweight and obesity, excessive use of alcohol, and insufficient physical activity. In accordance with the WHO targets, halting the obesity trend, cutting down on excessive use of alcohol, and reducing the percentage of the population not exercising sufficiently would also reduce the prevalence of hypertension in the population. The best impact on blood pressure levels and thereby on the risk of heart disease or acute cerebral stroke would be reached through a comprehensive change in lifestyle at the population level.

The treatment of blood pressure has seen some significant improvement in Finland since the 1990s. The percentage of patients receiving drug treatment and also those in good control has increased quite drastically. The treatment of mild hypertension has increased greatly in the last ten years. Finland has almost reached the level of comprehensiveness of drug treatment defined in the WHO action plan. To reach the treatment goals, drug treatment of hypertension should be defined and enhanced further. It is also essential that the diagnostics of hypertension and the assessment of the treatment outcomes are conducted in accordance with the care recommendations backed up by home measurements, so that the initiation and enhancement of care would be based on the person's real pressure level.

Reducing blood pressure levels on the population level and enhancing the treatment for hypertension both require action from several players on various societal levels. The population's intake of salt can be greatly influenced by food recommendations and regulations, product development and influencing supply. In Finland, most of the daily intake of salt is through bread, meat products, cheese and ready meals. Only a small portion of it comes through home-cooked food or salt added at the dinner table. It is essential for the intake of salt to reduce mean salt content in food products, ready meals and in catering services. In addition, it is important to add low salt options to key products, improve the food labelling, influence recommendations and product development, and educate consumers.

The enhancement of drug treatment requires better identification of high-risk persons at health care, and fluent clinical pathways. This can also be improved through the collaboration of various players by increasing awareness regarding the risks of hypertension amongst the population, arranging opportunities and instructions for the self-monitoring of blood pressure, and by improving the possibilities, know-how and motivation of health care professionals with regard to screening persons at risk when in contact during health care situations. The enhancement of drug treatment requires the recommendations given in the Current Care Guidelines to be properly implemented in care practices, as well as health care providers committing themselves to follow the recommendations.

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