World Health Organization

CARDIOVASCULAR DISEASES

Prevention and Control

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Editorial: Missed opportunities

Dr. Derek Yach, Executive Director, Non-Communicable Diseases and Mental Health Cluster

Although many cardiovascular diseases (CVDs) can be treated or prevented, an estimated 17 million people die of CVDs each year. A substantial number of these deaths can be attributed to tobacco smoking, which increases the risk of dying from coronary heart disease and cerebrovascular disease 2–3 fold. The risk increases with age and is greater for women than for men. In contrast, cardiac events fall 50% in people who stop smoking and the risk of CVDs, including acute myocardial infarction, stroke and peripheral vascular disease, also decreases significantly over the first two years after stopping smoking.

Continuing to smoke after myocardial infarction or coronary revascularization can have serious clinical consequences. Even eight years after myocardial infarction, the mortality of post-myocardial infarction patients who continue to smoke is double that of quitters. Further, those who do not stop smoking after coronary revascularization also have a two-fold higher risk of re-infarction and death.

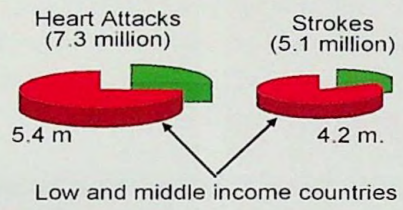
Studies indicate that although doctors are knowledgeable about the risks of CVDs associated with tobacco smoking, they are not sufficiently prepared to help their patients stop smoking. Even though physicians identify a substantial number of smokers during consultations, for example, many patients do not receive counseling to help them quit. Smoking cessation is the most cost-effective intervention for patients with documented CVDs, and efficacious programmes have been developed. The challenge is to get these programmes more widely used, and doctors and nurses should seize every opportunity to encourage patients to stop smoking.

The mission of the WHO Cardiovascular Diseases Program is to provide global leadership in the prevention and control of CVDs, and to assist Member States reduce the toll of morbidity, disability and premature mortality due to CVDs.

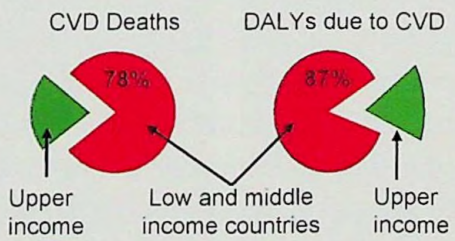
Strategic priorities of the WHO Cardiovascular Diseases Program

Public health problem

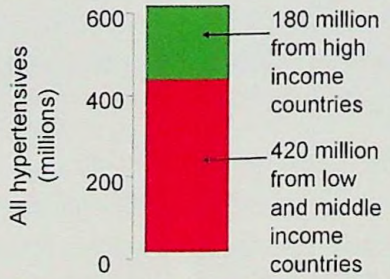
12.4 million deaths from heart attacks and strokes (1998)



Colossal CVD burden in low and middle income countries (1998)



600 Million hypertensives in the world are at risk of heart attacks, stroke and cardiac failure



Children and young adults die of preventable rheumatic heart disease

An estimated 12 million require secondary prophylaxis to prevent further disability and death due to rheumatic heart disease.

8 million are children of school going age



What is being done?

Cost-effective interventions for secondary prevention. A programme is being developed in collaboration with the Wellcome Trust to help Member States strengthen health care for people with established CVD. The programme supports cost-effective secondary prevention and facilitates policy development and capacity building for scaling-up national secondary prevention programmes. The objective is to develop context-specific, resource-sensitive, model programmes that could be integrated into the health systems of Member States.

Integrated community based prevention programs. Regional networks of community-based demonstration programmes are being developed in collaboration with the Health Promotion NCD Prevention and Surveillance Department. The programmes promote healthy lifestyles, particularly in tobacco use, diet and physical activity, through public policies for healthy living. The long-term goal is to provide countries with the experience to establish national, integrated, community-based programmes for preventing CVDs and other major non-communicable diseases (NCDs).

Guidelines and cost-effective strategies. The 1999 WHO International Society Guidelines for Management of Hypertension are being updated, using evidence-based methodology. The update will be available on the web for peer review by December 2001. Programmes are also being developed for the cost-effective management of hypertension in low-resource settings.

Guidelines and integrated programs for secondary prophylaxis. The 1988 technical report on the management of rheumatic fever and rheumatic heart disease is being revised, using evidence-based methodology. The draft document will be available on the web for peer review and wider consultation by December 2001. Secondary prophylaxis programs that can be integrated into primary health care are being developed in consultation with local experts.

Cardiovascular disease research and global partnership initiatives

The Cardiovascular Health Research Initiative in developing countries

The CVD Research Initiative began in November 1998 as a joint programme of WHO and the Global Forum for Health Research. The partnership has since expanded to include the Institute of Medicine (USA); World Heart Federation; National Public Health Institute (Finland); World Hypertension League; International Obesity Task Force; International Institute for Health and Development (Australia); Institut Universitaire de Médecine Sociale et Préventive (Switzerland); Centres for Disease Control (USA); and National Institutes of Health (USA). The Initiative has developed six multicentre collaborative research projects on capacity assesssment, surveillance, community-based interventions, clinical management and global information networks.

(Contact: cvdresearch@mantraonline.com).

INTER-HEART: A global case-control study of risk factors for acute myocardial infarction

INTER-HEART is a global case-control study that seeks to understand the importance of both traditional and emerging risk factors for acute myocardial infarction. The findings will be relevant for developing health policies that can be applied to different countries and ethnic groups. The study may also lead to cohort studies in participating countries and foster a network of committed investigators in approximately 50 countries. INTER-HEART is sponsored by the WHO and the World Heart Federation, and has received funding from peer-review agencies and industry.

(Contact: interheart@ccc.mcmaster.ca).

Air travel and venous thoromboembolism

On 12–13 March 2001, WHO convened a consultation of international experts to review the evidence on air travel and venous thromboembolism. The group unanimously decided that further research to investigate possible association should be undertaken as soon as feasible, under the auspices of WHO and the International Civil Aviation Organization, and supported by an independent scientific committee. It was also recommended that the International Air Transport Association and commercial airlines should be collaborators in the research. Research protocols for a set of multicentre collaborative studies have since been developed by the Scientific Committee and are ready for implementation.

(Contact: mendiss@who.ch).

Smoking cessation and low cost drugs (generics) can halve the recurrence rates of heart attacks and strokes.

Contribution of regional activities to the global CVD strategy

The Americas

The Pan American Health Organization (PAHO) is promoting CARMEN (Spanish acronym for: Actions for the Multifactorial Reduction of Noncommunicable Diseases) as a general framework for the prevention and control of NCDs in the Americas. This initiative was created in 1997 to reduce risk factors for NCDs, particularly cardiovascular disease, by coordinating health promotion and disease prevention activities in communities and community health services.

PAHO is working with member countries to support capacity building for an interdisciplinary prevention model in primary health care. This model includes the identification of risk factors, early detection of cases, delivery of comprehensive and long-term care, and more active participation of all members of the health team and the community. Management of hypertension and diabetes are particularly important in the model. A regional surveillance system for NCD risk factors is also being established, as member countries adopt a standard methodology.

Other important activities include strengthening collaborative work with various actors and community groups involved in this area, promoting the formation of coalitions between key stakeholders, and developing initiatives based on best practices by supporting information exchange among countries.

(Contact: roblessy@paho.org).

Eastern Mediterranean

The Eastern Mediterranean Regional Office (EMRO) gives high priority to CVD prevention and control programmes. National surveillance programmes for CVD risk factors and community-based prevention programmes have been initiated; and national and international workshops are held to increase awareness and educate health professionals about the CVD epidemic. Healthy lifestyles are also advocated through country workshops and health education programs. In several Member States, EMRO supported the development of national clinical guidelines for cost-effective management of hypertension, with emphasis on primary care.

Many countries are making significant progress in developing national programmes for the surveillance of risk factors and for managing hypertension. The challenge is to deliver interventions, which will promote behavioural changes in individuals and in the population as a whole.

(Contact: KhatibO@who.sci.eg).

Africa

CVD and other chronic conditions are rapidly increasing in Africa, and poverty plays a major role in the impact of these diseases on communities. Benin, Cameroon, Mali, Zambia, Zimbabwe and Algeria are participating in WHO Global Programme for Prevention and Control of Rheumatic Fever and Rheumatic Heart Disease. A regional advisory board is being set up to assist with managing the programme. The most important activities for controlling risk factors are related to the Tobacco Free Initiative. Situation analyses are being conducted in Botswana, Kenya, Lesotho, Malawi, Swaziland, Zambia and Zimbabwe. Health education programmes targeting school youngsters are also underway in these countries. Technical support is being provided to Botswana, Kenya, Lesotho and Zimbabwe to develop anti-tobacco legislation. Support has also been provided to Botswana and Zimbabwe to undertake a situation analysis on CVD and other major NCDs, and the programme will be extended to three other countries in the near future. In addition, two countries will participate in a pilot test of WHO stepwise approach to surveillance. Nigeria is part of the WHO/CDC MEGA country project. Initial steps have already been taken to establish a regional network of NCD-related activities.

(Contact: belhocinem@whoafr.org).

South-East Asia

Growing evidence shows that CVD poses an important health threat to disadvantaged and poor segments of population. A top priority of the South-East Asia WHO regional office (SEARO) is thus to promote the development of reliable, inexpensive and sustainable surveillance systems for major NCDs and their risk factors, that can be used at both regional and national levels. Advocacy and technical support aimed at integrating national NCD prevention and control programmes also continue in the region. SEARO has emphasized the need to shift the focus of policy makers from expensive tertiary care, to primary and secondary prevention through community- and primary healthcare-based interventions. Efforts are also being made to increase public awareness about the harmful effects of tobacco use, and Indonesia, Myanmar, Nepal and Thailand have initiated national CVD control programmes.

(Contact: leowskij@whosea.org).

European Region

The Countrywide Integrated Noncommunicable Diseases Intervention (CINDI) programme aims to reduce modifiable risk factors, such as smoking and high blood pressure, by integrating health promotion and disease prevention. At present, 27 countries participate in the programme.

Two other programmes also aim to improve the quality of life of people with CVDs. The Helsingborg Declaration on stroke management was a follow-up to the 1995 Pan-European Consensus Meeting on stroke management. The meeting was organized in collaboration with the European Stroke Council, the World Confederation of Physiotherapy-Europe, the World Federation of Occupational Therapy, the European Federation of Neurologists Societies and the International Stroke Society. A document on stroke units is under elaboration.

The second programme is a pilot project aimed at improving the education skills of general practitioners. The programme shows practitioners how to educate coronary heart disease patients about improving the quality of their lives, and how rehabilitation and secondary prevention can be improved.

(Contact: ash@who.dk).

Western Pacific

The Western Pacific Regional Office of WHO (WPRO) has taken an integrated approach to the prevention and control of NCDs, including CVD. In 2000, the Western Pacific Regional Committee adopted resolution WPR/RC51.R5 on the prevention and control of NCDs. A Declaration and Plan of Action on Diabetes has also been formulated, in addition to a Call for Action on Obesity in the Pacific islands. Technical capacity for surveillance is supported through participation in the global WHO STEPS process in Mongolia, Viet Nam and Pacific island countries.

Integrated community-based interventions on NCDs are being implemented in China, the Philippines, Micronesia, Tonga and Samoa. Several Member States have supported national guidelines for managing hypertension in the community, for example, and a guide to Developing Food-based Dietary Guidelines for the Prevention and Control of NCDs has been developed. Physical Activity Guidelines have also been formulated. The work of the WPRO Tobacco-Free Initiative generates support for the Framework Convention on Tobacco Control and supports national tobacco control activities.

(Contact: galeag@wpro.who.int).

Multisector partnerships

World Heart Federation (WHF)

The WHF maintains a close working relationship with the WHO CVD programme. Joint activities include the WHO/WHF/UNESCO Campaign for the Prevention of CVD; health promotion in school-age children in developing countries; projects on rheumatic fever/ rheumatic heart disease; the Monica project; and development of health education materials, and norms and standards in CVD. The WHF supports WHO efforts to control and prevent risk factors for NCDs, such as tobacco smoking. WHO supports the WHF International Ten-day Teaching Seminar on CVD Epidemiology and Prevention.

The WHF organizes the annual World Heart Day to increase awareness about the global impact of heart disease and stroke. On 24 September 2000, the first World Heart Day was organized by WHF and co-sponsored by WHO and 77 countries participated. The 2001 World Heart Day will take place on 30 September with the theme "A heart for life."

(Contact: janet.voute@worldheart.org).

World Hypertension League (WHL)

From 1982–1987 WHL/WHO collaboration conducted a successful Patient Education Project on hypertension. WHL has also launched the Pan American Health Initiative (PAHI) to stimulate international interest in hypertension control in the Americas. PAHI is a WHL collaboration with Pan American Health Organization; Inter-American Heart Foundation; Inter-American Society of Cardiology; Inter-American Society of Hypertension; National Heart, Lung and Blood Institute; Pan American Network of CARMEN Programs; Sociedad Latinoamericana de Nefrolog'a e Hipertension; and WHF.

(Contact: Lenfantc@NIH.Gov)

International Society of Hypertension (ISH)

ISH collaboration on the WHO Cardiovascular Diseases Programme began in 1974 and has produced four versions of the WHO/ISH guidelines on managing mild hypertension (1983, 1986, 1989, 1993). Currently, the 1999 WHO/ISH guidelines are being updated.

(Contact: giuseppe.mancia@unimib.it).

Heart Friends Around the World (HFATW)

HFATW is an international non-governmental organization and an affiliated member of the WHF that promotes CVD prevention worldwide through a membership network of over 1000 cardiologists in more than 100 countries. A WHO/HFATW joint project is being established for the continuing medical education of health personnel in low- and middle-income countries.

(Contact: heartfrien@cbmail.it).

International Federation of Red Cross and Red Crescent Societies

The International Federation of Red Cross and Red Crescent Societies have included cardiopulmonary resuscitation and CVD awareness as a major component in First Aid Training Courses. In collaboration with WHO, an initiative has also been launched to improve awareness of CVDs in poor and marginalized populations.

(Contact: secretariat@ifrc.org).

Other partners include: UNESCO; International Civil Aviation Organization; International Stroke Society; International Society of Cardiothoracic Surgeons; International Society on Thrombosis and Haemostasis; International Atherosclerosis Society; International Federation of Sports Medicine; Fédéracion Internationale de Médecine Sportive (FIMS); Sli na Slante/Sli International; and the Arab Gulf Programme for the United Nations Development Organizations (AGFUND).

Forthcoming CVD publications

Cardiovascular survey methods

The third edition is a complete source and critical reference for those involved in cardiovascular research.

WHO MONICA monograph

This monograph documents the largest collaborative epidemiological study of CVDs, risk factors and socioeconomic determinants. The 21-year study was coordinated by WHO/CVD and covered 21 countries in 4 continents.

Atherosclerosis in children and young adults

An overview of the WHO and International Society and Federation of Cardiology Study on Pathobiological Determinants of Atherosclerosis in Youth (PBDAY) is in press in the Journal of CVD Prevention.

Other useful information

CVDInfobase

CVDInfobase (http:\\cvdinfobase.ic.gc.ca), was launched in 1997 by a WHO collaborating centre at the Division of Cardiology, University of Ottawa, Canada. It contains information about CVDs available for individual developing countries that is profiled on five key groups of variables: demographics, mortality, morbidity, risk factors and related health services. Plans are being made to adapt the site to other NCDs.

(Contact: wielgosz@uottawa.ca).

ProCOR

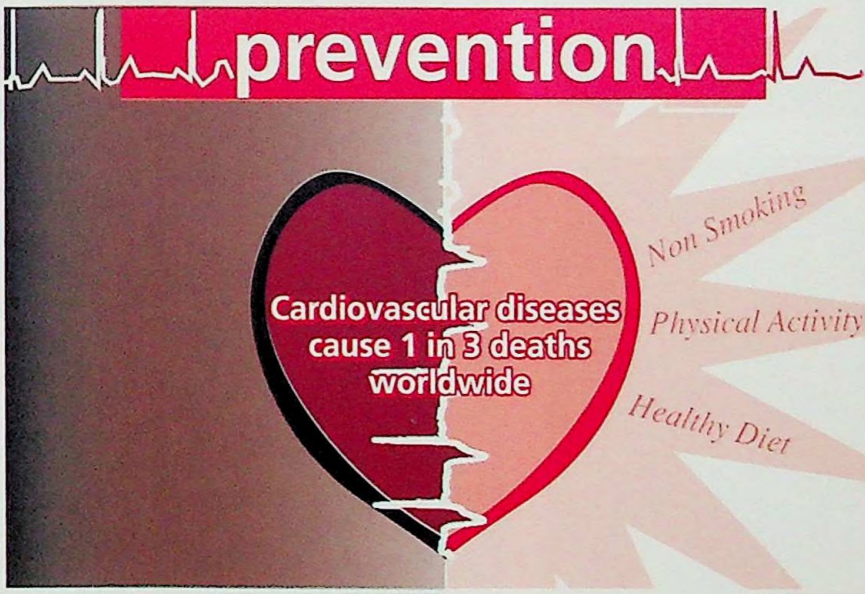
ProCor (http://www.procor.org; global electronic conference on cardiovascular health in the developing world) is a free website that facilitates the global exchange of information on CVDs.

(Contact: arlene@usa.healthnet.org).

Global Scenario 2001

One heart attack every 4 seconds

One stroke every 5 seconds



Global Deaths 1999

17 Million due to cardiovascular disease

Collaborating centres in the WHO - CVDs network

- Division of Cardiology, University of Ottawa, Ontario, Canada.
  Contact: wielgosz@uottawa.ca
- National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD, USA.
  Contact: Lenfantc@NIH.Gov
- Division of Epidemiology, School of Public Health, University of Minnesota, MN, USA.
  Contact: luepker@epi.umn.edu
- National Cardiovascular Centre, Osaka, Japan.
  Contact: who-cc@mgt.ncvc.go.jp
- Guangdong Provincial Cardiovascular Institute, Guangzhou, China.
  Contact: gzcdvl@public.guangzhou.gd.cn
- Shanghai Institute of Cardiovascular Diseases, Shanghai Medical University, Shanghai, China.
  Contact: yq_wang@shmu.edu.cn
- Institute of Cardiovascular Diseases and Fuwai Hospital, Chinese Academy, Beijing, China.
  Contact: tsg@public.east.cn.net
- Menzies Centre for Population Health Research, Hobart, Australia.
  Contact: T.Dwyer@utas.edu.au
- Alfred & Baker Medical Unit, Maker Medical Research Institute, Melbourne, Australia.
  Contact: g.jennings@alfred.org.au
- All India Heart Foundation, New Delhi, India.
  Contact: padmavat@del2.vsnl.net.in
- All India Institute of Medical Sciences, New Delhi, India.
  Contact: Ksreddy@satyam.net.in
- National Institute of Cardiovascular Diseases, Karachi, Pakistan.
  Contact: nicvdedo@comsats.net.pk
- Wissenschaftliches Institut der Praxisartze Wiesloch, Heidelberg, Germany.
  Contact: Egbert.nussel@wip.villa-bosch.de
- Kaunas Medical Academy Centre, Kaunas, Lithuania.
  Contact: cmtl@kma.lt
- National Centre for Environmental Health, Centres for Disease Control, Atlanta, GA, USA.
  Contact: ejsl@cdc.gov
- Institute of Epidemiology and Social Medicine, University of Münster, Germany.
  Contact: keilu@uni-munster.de
- Azienda Per I Servizi Sanitari 4, "Medio Friuli," Udine, Italy.
  Contact: vanuzzod@tin.it
- Istituto di Medicina Fisica e Riabilitazione, Udine, Italy.
  Contact: crge@ass4.sanita.fvg.it
- Institut Universitaire de Médicine Sociale et Préventive, Lausanne, Switzerland.
  Contact: IUMSP@inst.hospvd.ch
- Royal Newcastle Hospital, Newcastle, Australia.
  Contact: jbyles@cceb.newcastle.ed.au
- Graduate School of Human and Environmental Studies, Kyoto University, Kyoto, Japan.
  Contact: yamori@helios.jinkan.kyoto-u.ac.jp
- Department of Preventive Medicine and Public Health, Tokyo, Japan.
  Contact: kats@tokyo-med.ac.jp

Contact Information

World Health Organization
Cardiovascular Diseases Program
CH 1211 Geneva 27, Switzerland
Fax 0041 22 791 4151
E mail **mendiss@who.ch**
Web address: http://www.who.int/ncd/cvd/index.htm

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