NATIONAL PROGRAMME FOR THE PREVENTION AND CONTROL OF THE CARDIOVASCULAR DISEASES

DIRECTORATE-GENERAL OF HEALTH

MINISTRY OF HEALTH
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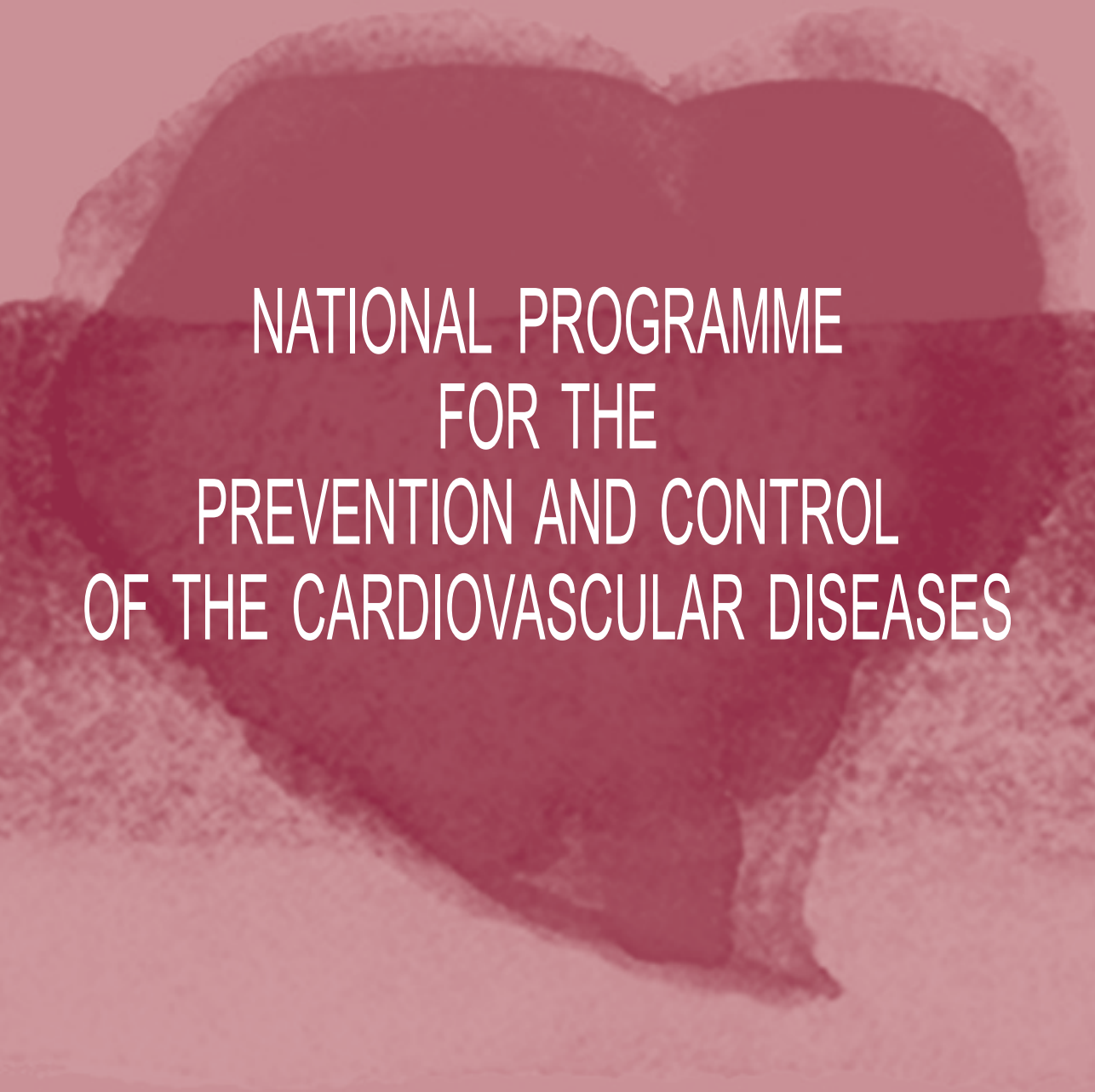

NATIONAL PROGRAMME FOR THE PREVENTION AND CONTROL OF THE CARDIOVASCULAR DISEASES

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INTRODUCTION

The suffering and costs resulting from the cardiovascular diseases have given them a notable preponderance, such that today they may unquestionably be acknowledged as social diseases; diseases having social origin and repercussion[1].

The cardiovascular diseases, namely the cerebral vascular accident (CVA) and the coronary artery disease (CAD), with its multidimensional character and severe negative and direct consequences for the individual, for society and for the health system itself, should therefore be regarded as one of the most important, if not *the* most important, of the public health problems requiring solution. In view of this, the approach to these diseases justifies planned and organised action throughout the whole of the health system, by means of a National Programme that will attempt not only to prevent the diseases and reduce the disabilities caused by them, but also to prolong life.

Following scientific and technical advances in this sphere, however, the present programme envisages more ambitious objectives, going beyond preoccupation with increased life expectancy, to promoting health, prolonging active life, minimising morbidity throughout the life span and, additionally, improving the quality of life at each stage of the natural progression of these diseases[2].

In line with many other western countries, the cardiovascular diseases, namely, CVA and CAD or ischaemic heart disease (IHD) are the principal causes of death in Portugal where they rank among the highest in Europe and, indeed, the World[3]. The diseases were responsible for nearly 50% of deaths in 1999 (42,998 out of a total of 100,252 deaths)[4], and also figured among the main causes of morbidity, disability and potentially premature death, among the Portuguese population[5].

While, as we have seen, these diseases are the main causes of mortality in Portugal in respect of both sexes (39% of all deaths in 1999), a decreasing trend may be observed, nevertheless, at national level and in all age groups: 52% of those deaths corresponded to cerebrovascular diseases and 22% to ischaemic heart disease[6].

Table I – Mortality per age group due to Circulatory Diseases (Causes of death per 100 000)

	1996		1999	
	Women	Men	Women	Men
Between 20 – 44 years of age	9.2	22.8	9.5	22.8
Between 45 – 64 years of age	109.2	262.0	98.5	223.9
Over 64 years of age	2 629.5	2 851.3	2 390.7	2 585.2

Source: DEP, DSIA and DGS

The number of deaths due to cerebrovascular diseases has also been diminishing in Portugal. Nonetheless, despite a notable decrease, Portugal continues to be the country within the European Union with the highest mortality rate from these causes. Also showing a decrease, albeit less pronounced, are the rates of mortality resulting from ischaemic heart disease.[7]

Table II – Mortality per Circulatory Diseases (Causes of death per 100 000)

	1996		1999	
	European Union	Portugal	European Union	Portugal
Mortality from Ischaemic Heart Disease before the age of 65	26.9	20.5*	24.8*	18.7
Mortality from Cerebrovascular Disease before the age of 65	9.5	22.9*	9.2*	19.7

Siurce: DEP, DSIA and DGS * 1988

Given that an average of 17% of the Portuguese population suffers from hypertension[8] (± 30% of screenings performed); that some 19% of the population aged 10 or over admit to smoking more than 20 cigarettes a day[9]; that 50% of the population show signs of excessive weight[10]; and that, in addition, Portugal is the country within the European Union with the highest daily intake of calories and the lowest proportion of walkers[11], revision of the technical rules issued by the Directorate-General of Health in 1989, regarding approach to the control of arterial hypertension (AHT) becomes an obvious priority.

Acknowledgement of the cardiovascular diseases as the main causes of death in the country, also accounting for the majority of hospital patients, confirms that the prevalence of AHT is high and its control inadequate[12]. In addition to the main

objective of better controlling blood pressure, it is now important to consider an integrated approach to other equally significant factors of risk leading to morbidity and cardiovascular mortality; smoking, dyslipidaemia, diabetes, alcohol abuse, sedentary lifestyle, obesity and excessive stress.

The high national incidence of cardiovascular risk factors demands that special attention be given to their effective prevention, detection and correction, bearing in mind that the subjacent concept of this term encompasses not only the actions that prevent health loss but also all the care which leads to its recovery. It further makes imperative the adoption of integrated and complementary measures, among the Portuguese population, that result in a reduction of the risks of contracting these diseases; swift and adequate treatment and secondary and preventive measures that decrease the possibility of their recurrence.

Health science development shows that premature death in the western world is not defined by fate but rather by diseases resulting from, or aggravated by, improvidence or ignorance of their true causes.

Within the European Union, Portugal continues to be the country with the highest rate of mortality due to CVA[13], resulting from the high prevalence of insufficiently-diagnosed and inadequately-treated AHT, from the decline of the traditional Mediterranean diet and from the uncontrolled consumption of tobacco by both middle-aged men and women and its increased consumption by young women.

Moreover, the rising trend towards alcohol abuse and the exaggerated intake of food calories lead to excess weight, encouraging spiralling obesity and diabetes type 2, which in their turn contribute to an increase of cardiovascular morbidity and premature death.

The sum of the foregoing behaviours is further aggravated by a lack of daily physical activity which, coupled with an exaggerated use of transports and long periods in front of the television, result in a sedentary lifestyle and yet another cardiovascular risk factor.

IHD and myocardial infarctions, too, despite their low mortality rate in Portugal compared with other European Countries, must continue to be a preoccupation

within our health system, in view of their internationally-predicted increase by 2025.

Despite recognition by the great majority of today's population of the need to introduce changes in their risk behaviour, there is a continued refusal to modify eating habits i.e. to reduce salt, fat and calories, and to stop smoking or to curtail the consumption of alcohol. Cholesterol and blood-sugar levels are not controlled and the need for periodic check-ups ignored. These should be seen as mandatory, especially when there is a genetic risk or confirmation of family history of cardiovascular disease or premature death.

Thus, it falls not only to the health services, whether centres or hospitals, but also, as an ethical imperative, to all popular information and education agencies, to clarify the manner in which each individual may choose, adapt and adopt the healthiest and most desirable options within the sphere of his or her own lifestyle.

It goes without saying that all of us would like to know how to avoid disease. However, learning to combat it is essential if we are to live a healthier life to the end. This precondition justifies the present National Programme for the Prevention and Control of the Cardiovascular Diseases, the potential of which will be greatly increased by interaction with programmes or plans already in existence.

Ideally, the all-encompassing and integrated, multidisciplinary and intersectorial primary prevention of the cardiovascular diseases should, through the various policy sectors, be preceded by a general mobilisation of society to participate in the struggle for health promotion and preservation.

At the same time, this endeavour should attempt to prevent the majority of the risk- factors common to the most prevalent non-communicable diseases and to those of long-term progression and of an incapacitating nature, as defended by the World Health Organisation through the CINDI* Programme which, in focusing on health promotion, undoubtedly consolidates the most advantageous strategy in terms of health gains.

* CINDI – Countrywide Integrated Non Communicable Diseases Intervention Programme. Programme created by the WHO, in Europe, based on initial experiences with the Cardiovascular Diseases.

Through unceasing awareness of the need to adopt healthier lifestyles and the primary prevention of cardiovascular risk factors, attitudes and behaviours, i.e., errors of diet, smoking, alcohol abuse and stress, as recommended in the CINDI

philosophy, it is possible, by implementing a "population strategy" to preserve health, reducing the incidence not only of the cardiovascular diseases but also of many other chronic diseases.

The population strategy comprises a series of measures that are aimed at the public in general, or at specific social groups, having as its goal a decrease in the prevalence of certain risk factors and an increase in the number of protective factors. It should not be forgotten, in fact, that most harmful habits are adopted during adolescence and the beginning of adulthood. Particular attention, therefore, should be given to this age group. At the same time, both cities and workplaces should be considered privileged areas for creating awareness of the benefits resulting from the adoption of healthier lifestyles and the reduction of risk behaviours.

This awareness imposes strategies for the general mobilisation of society in relation to promotion and health preservation, through education, information and training, directed in general terms at all age and professional groups, by means of:

1. the national, regional and local media;
2. opinion leaders;
3. educators;
4. artists and entertainers;
5. scientific societies and professional associations;
6. patients' associations.

I – PRESENTATION

The present National Programme for the Prevention and Control of Cardiovascular Diseases requires a comprehensive and integrated national approach that, allowing for the specific characteristics of each, leads to a reduction among the Portuguese population of the risk factors involved and to the provision of adequate treatment.

The large investment in preventive measures, whether primary, secondary, tertiary or those of rehabilitation, clearly warrants the pooling of efforts not only of the health centres and hospitals, but also of all the intermediaries of the health services.

This combined effort, principally destined for target-sectors of the population and health professionals within the care-provision services, must not fail to include the regional health administrations, the local authorities and all other related organisms, whether regional or local, which may contribute to improving cardiovascular health.

Hence, through an integrated approach, it is the intention of the National Programme for the Prevention of Cardiovascular Diseases to give prominence to both health and therapy education, by means of processes which envisage guiding men and women, through better information, to self-sufficiency in relation to their own health and, where appropriate, to greater independence in coping with the progress of their diseases.

This Programme, therefore, has as its aim the global reduction of cardiovascular risks, in the following five fundamental ways:

1. improving epidemiological surveillance of risk factors and of cardiovascular pathologies;
2. promoting cardiovascular prevention, acting on each of the risk factors individually;
3. encouraging the citizen's responsibility for his own health;
4. improving the organisation of health care provision, in relation to periodic health exams, and the approach to chest pains and cerebrovascular accidents;
5. promoting respect for good clinical and therapy practices.

Although it is estimated, that the great majority of the Portuguese population is capable of identifying the principal risk factors contributing to the progression of cardiovascular diseases, both health and therapy education encompass, within the context of the present programme, a diversified set of information, education, communication and training exercises, that should be actively placed at the service of promoting healthy lifestyles and effectively combating these diseases.

The National Programme for the Prevention and Control of the Cardiovascular Diseases will be implemented fundamentally with the intervention of quality- and system-improving strategies, applied through the development of products and actions on a national scale and repeated at regional and local levels with the appropriate creative adaptations.

In order to realise these strategies, the Directorate-General of Health elects, within the ambit of this Programme, the Portuguese Society of Cardiology as its permanent scientific interlocutor, without forfeiting, however, the possibility of calling upon the necessary scientific and technical collaboration of other Societies and Institutions, as well as of The Patients' and Professionals' Associations.

Strategies of intervention – These are based upon primary and secondary prevention of the cardiovascular diseases, through complementary public and individual actions.

Public actions comprise measures targeting the general public, or specific social groups, beginning with health education and the media, and having as their goal a decrease in the prevalence of risk factors such as: tobacco, sedentary lifestyle, errors of diet including alcohol abuse; and an increase in the prevalence of protective factors, i.e., physical exercise and the option of adopting healthy nutrition. Individual actions, on the other hand, are those specifically targeting known carriers of cardiovascular disease risk factors, whether or not of genetic origin, and those of a formative, informative and normalising nature, directed at health professionals, with a view to improving their performance in the area of cardiovascular pathology. The strategies of intervention should evolve within a framework of continued quality improvement

that comprises actions in respect of organisation and of a professional practice nature, with a view to bringing to a higher standard not only the whole process of identification and accompaniment of risk factor carriers and of the diagnosis, treatment, recovery and control of cardiovascular patients, but also the results achieved, quantified in terms of health gains.

Strategies for improving information systems – Additional to the improvement of existing information on the epidemiology of cardiovascular diseases, these strategies contemplate adapting and/or creating information systems which will permit accompaniment, monitoring and assessment of the present Programme.

Given that it is already the subject of a separate national Programme, an approach to diabetes *mellitus*, another important cardiovascular risk, is not dealt with in the present Programme. In some aspects, however, both Programmes can and should be complementary.

Similarly, the present Programme's strategy for the prevention and control of the use of tobacco should be complementary to the extensive action elaborated by the Council for Tobacco Prevention.

Because it is frequent for a person to suffer from multiple chronic pathologies, interactive and mutually-intensifying, it is imperative that the present National Programme for the Prevention and Control of the Cardiovascular Diseases be developed and put into practice in collaboration with other existing service and health care programming: principally with the reorganisation of primary health care, with the National Programme for the Control of Diabetes *Mellitus;*[14] with the National Oncology Plan 2001-2005; with the National Plan for the Fight against Pain,[15] and with the future National Network of Continued Care. In this context, the CINDI Programme constitutes a paradigmatic example to follow of multidisciplinary and inter-sectorial integration.

Arising from the elaboration of the current diagnosis of the Portuguese situation with regard to cardiovascular diseases, this Programme, which enjoys the scientific support of the Portuguese Society of Cardiology and of the Co-ordinator of the CINDI Programme – Portugal, will be accompanied by

indicators which will make it possible to monitor not only the whole process of its development, but also the impact that it has on the Portuguese population in terms of health gains.

The National Programme for the Prevention and Control of the Cardiovascular Diseases elects to act as the incentivating force for, and collector of, national contributions for the European Heart Plan.

II – PROJECTED TIMESCALE

The projected timescale for the National Programme for the Prevention and Control of the Cardiovascular Diseases, advancing at a sustained and consistent pace, is ten years with effect from its approval, allowing, however, for any corrections that may be found necessary in the course of its elaboration.

III – PURPOSE

The National Programme for the Prevention and Control of the Cardiovascular Diseases aims at attaining the following final results:

- *To reduce the incidence of myocardial infarction, especially in the under-65s*
- *To reduce the incidence of CVA, especially in the under-65s*

In order to attain these results, the following intermediate goals must be achieved:

- *An increase in the proportion of diagnosed and controlled hypertension patients*
- *An increase in the proportion of diagnosed and controlled dyslipidaemic patients*
- *An increase in the proportion of diagnosed and controlled diabetics*

- *An increase in the proportion of diagnosed and controlled atrial fibrillation patients*
- *A reduction in the number of smokers*
- *A reduction in the prevalence of obesity*
- *An increase in the number of individuals who engage in regular physical exercise*
- *Improved professional practices in the cardiovascular sphere*

IV – RISK FACTORS

The following should be considered as the principal individual risk factors for the development of cardiovascular diseases, to be combated in the present Programme:

- *High blood pressure*
- *Dyslipidaemia*
- *Smoking*
- *Unhealthy diet (e.g. too much salt, fat and sugar and insufficient vegetables and milk)*
- *Excess weight/obesity*
- *Sedentary lifestyle*
- *Diabetes Mellitus*
- *Stress*

V – TARGET POPULATION

While recognising the general public as the target population, within the present programme, priority and ab initio consideration must be given to those individuals known to be carriers of risk factors or who have a personal or family history of cardiovascular disease and who are therefore deserving of specialised attention.

VI – STRATEGIES OF INTERVENTION

In order that the necessary standards of quality may be maintained in the control of cardiovascular risk, under the present Programme it is proposed to implement cycles of quality improvement.

1. INTENSIFYING INFORMATION CAMPAIGNS DIRECTED AT THE GENERAL PUBLIC

The campaigns of information on healthy lifestyles, risk factors and the early detection of symptoms of acute coronary and cerebrovascular syndromes should be promoted by the central, regional and local health networks and must be able to count upon the collaboration of health and educational professionals, as well as the leaders, formal or informal, of opinion.

2. IMPROVING THE DIAGNOSIS AND TREATMENT OF ARTERIAL HYPERTENSION

In Portugal, the diagnosis and control of AHT is of particular importance, given that cerebrovascular disease is the first cause of disability and death.

The treatment of AHT envisages, in the short term, the reduction of blood pressure values, in order to prevent, in the medium term, the progression of the disease and its repercussions on target organs and to obtain, in the long term, a decrease in morbidity and cardiovascular mortality.

The aim of the strategy is to promote the improvement of professional practices with regard to the efficiency of diagnosis, treatment, aftercare and adherence to therapy of the hypertensive patient, as well as of both self-vigilance and control of AHT and associated risks.

The correlation between AHT, diabetes *mellitus* and dyslipidaemias, as well as other cardiovascular risk factors such as: tobacco, alcohol abuse, sedentary lifestyle and obesity, significantly increases the risk of morbidity and cardiovascular

mortality, giving the risks an importance over and above the adequate diagnosis and control of arterial tension.

To this effect, the Directorate-General of Health will produce and publish:

- technical guidance for health professionals, having as its basis international consensus adopted by the scientific community on the diagnosis and treatment of AHT;
- a handbook for the hypertensive patient, explaining self-care in the vigilance and control of arterial tension.

3. IMPROVING THE DIAGNOSIS AND TREATMENT OF DYSLIPIDAEMIA

The relationship between the hyperlipidaemias and the various clinical manifestations of atherosclerotic disease is scientifically proven, as is their accelerated deterioration when associated with tobacco, diabetes *mellitus* or arterial hypertension.

In fact, their reduction and control can lead to the regression or, at least, the non-progression of atherosclerosis plaques and contribute to decreased morbidity and cardiovascular mortality in dyslipidaemic patients of both sexes, with or without CAD, or arterial disease in other locations (carotids, vertebrae, aorta, kidneys, penis, or lower limbs).

Using this strategy, it is intended to promote the improvement of professional methods in the diagnosis, treatment and control of the patient with dyslipidaemia.

To this end, there will be created or adapted and published by the Directorate--General of Health

- technical guidance for health professionals on diagnosis, treatment and control of dyslipidaemias.

4. PREVENTING AND CONTROLLING SMOKING

Within the European Union, tobacco smoking is the most serious risk factor, contributing to about 50% of avoidable deaths[16], half of which due to atherosclerosis.

The harmful effects of tobacco are cumulative, in relation to both the number of cigarettes smoked daily and the age at which smoking began. The risk is particularly high if smoking starts before the age of 15, especially to women since tobacco significantly reduces the relative protection which is apparently provided by oestrogens. Neither should the existence of a higher risk to conception, pregnancy, and breast feeding be overlooked with consequences on the delay in intra-uterine growth, on premature birth, on low weight at birth and on the sudden death of a new-born.

Passive tobacco exposure also carries an additional risk of atherosclerotic CAD, and fosters other diseases, specifically, osteoporosis and respiratory tract and oncology diseases.

On the other hand, it has been demonstrated that 10 years after quitting smoking, the risk of a heart attack in an ex-smoker without CAD is similar to that of a non-smoker.

This strategy aims to promote not only the improvement of information on the harmful effects of tobacco but also the advantages of assistance in breaking the tobacco habit, including the setting up of innovative consultations specifically for that purpose. It is further intended to promote and encourage the adoption of healthy lifestyles and to reinforce the anti-smoking element in school programmes and in work places in order to dissuade new smokers and increase the numbers of ex-smokers.

To this effect, the Directorate-General of Health will create and publish:

- technical guidance on the contents of programmes to be used in the training of health professionals on breaking the tobacco habit;
- technical guidance for health administrators and professionals on counselling and accompanying smokers in general – and family-medicine

and on organisation and practice in referral consultations for quitting smoking;
- Information on the harmful effects of tobacco, aimed at both young people and the adult population.

5. REDUCING THE NUMBER OF THE OVERWEIGHT / OBESE

The changes in eating habits that have taken place over the last decades, with a greater consumption of meat and saturated fat and less olive oil, fish, vegetables and fruit, have given rise to an increase in cardiovascular diseases and their potential complications.

Obesity and excess weight are directly related to greater cardiovascular risk, as a result of the various diseases and morbid conditions they induce, especially in relation to diabetes *mellitus* type 2, and contribute additionally to a significant increase in morbidity and mortality caused by atherosclerosis and to a decrease in life expectancy.

Overweight, due to its increasing trend in all age groups, young people included, is a significant public health problem. In Portugal, there are about 850 000 obese adults[17] and excess weight affects almost half the population[18].

The purpose of this strategy is to promote the improvement of information on the harmful effects of excess weight and on the advantages of adequate food and nutrition and other aids to the advancement of health, of necessity coupled with a reduction in the intake of alcohol and an effective increase of physical activity.

To this effect, the Directorate-General of Health will produce and publish:

- information on proper food and nutrition, destined for both the public in general and for specific age groups, namely children, the young and the elderly;
- a software application, pedagogical and inter-active, on healthy eating and nutrition, targeting not only children and the young, during the period of compulsory schooling, but also their educators.

6. INCREASING THE REGULAR PRACTICE OF PHYSICAL ACTIVITY

Lifestyles and economic and social development in western society have given rise to a notable decrease in the average levels of physical activity, and in this Portugal is no exception.

Increasing regular physical exercise, among all age groups, is one of the most productive and cost-effective means of reducing the extent and severity of cardiovascular diseases.

Physical exercise, regular, spontaneous or programmed, while simultaneously combating the sedentary lifestyle, inevitably leads to a healthy way of life.

By means of this strategy, it is intended to promote the improvement of information on the advantages of physical activity, to encourage the practice of sports in the young; to stimulate regular exercise in all age groups and to promote the participation of the local authorities in creating favourable conditions for its practice.

To this effect, the Directorate-General of Health will produce and publish:

- information on the benefits of physical activity and recommendations for the promotion and practice of regular exercise, destined for both the general public and the local authorities;
- a software application, pedagogic and inter-active, on the subject of regular life-long physical activity, aimed not only at children and young people during the period of compulsory schooling but also at their educators;
- the conclusions and recommendations of national meetings of local authorities to serve as a basis for joint reflection on "Promotion of healthy active life in the villages and cities".

7. IDENTIFYING CARRIERS OF CARDIOVASCULAR RISK FACTORS THROUGH PERIODIC HEALTH EXAMS – PHE

The cardiovascular diseases, and more particularly cerebrovascular disease and the CAD, are the principal causes of death and one of the main causes

of morbidity, the great majority of which could be avoided with preventive action.

Over the last few years, scientific evidence has shown that the success of effective cardiovascular prevention depends, in many cases, on the attitude of the health professional.

Given the multifactorial nature of these diseases, the systematic calculation of cardiovascular global risk as a daily professional practice is fundamental: in evaluating the relative, absolute and projected cardiovascular risk of individuals, the latter may be advantageously induced to alter one or more risk factors.

This strategy aims to promote the improvement of professional performance in the area of PHE implementation, by including it in the criteria for quality assistance to be developed as a routine professional procedure in family general practice and internal medicine, thus inducing in the general public a habit of health awareness and self vigilance.

Although the strategy involves the public in general, the principal targets will be children and young people, women of 50 and over, men of 40 and over and all individuals with a family history of premature cardiovascular disease or sudden death, or those with known risk factors.

To this effect, the Directorate-General of Health will create and disseminate:

- technical guidance on PHE in the cardiovascular sphere, destined for health professionals;
- information on the benefits of PHE, destined for the general public

8. IMPROVING ACCESS TO THE DIAGNOSIS AND TREATMENT OF CORONARY ARTERY DISEASE

It is known that approximately one third of myocardial infarction episodes have a fatal outcome[19], about 50% of the deaths occurring within the first hour and before arrival at the hospital[20].

It is also known that coronary revascularisation, pharmacological (thrombolysis), or mechanical (angioplasty), has brought about a decrease in mortality in the acute phase of myocardial infarction, in cases where it has been caught in time, to less than 10%[21].

In Portugal, however, coronary reperfusion therapy, including direct angioplasty, is used in only 41% of patients[22], which places us below the values obtained in other European countries.

The development of a speeding-up process at national level, the so-called "Coronary Fast Lane" will permit an improvement in the attendance of patients in conditions of acute heart disease and, it is hoped, will contribute, in a decisive manner, to the decline of mortality resulting from ischaemic heart disease in Portugal.

In adopting this strategy, the intention is to promote improvement in the access of a patient, victim of chest pain, to swift diagnostic confirmation and to the institution of the best and most adequate therapy for acute coronary syndromes.

To this end, the Directorate-General of Health will produce and publish:

- Technical guidance on the early treatment of the acute phase of heart disease, destined for health professionals;
- Diagnosis and treatment referral networks for stable heart patients or urgent cases (heart attack), destined for health professionals;
- Guidelines governing referral circuits for post acute ischaemic disease (heart attack), destined for health professionals;
- Guidelines for the organisation of services that facilitate access to health care for patients with cardiovascular risk, namely, scheduled medical appointments or non-invasive diagnostic tests, a reduction in the waiting period and the creation of timetables compatible with a patient's working life.

Additionally, priority will be given to

- the development and assessment of the national implementation of the "Coronary Fast Lane", coordinated by the National Institute of Medical Emergency;

- the promotion and dissemination of information enabling the general public to take the fullest possible advantage of the "Coronary Fast Lane"; the promotion of the swiftest possible access - a week at the most - to a referral appointment, as determined by the General Practitioner, for patients with possible ischaemic heart disease.

9. IMPROVING ACCESS TO THE DIAGNOSIS AND TREATMENT OF CEREBROVASCULAR ACCIDENT

CVA, or stroke, represents a public health problem, not only because it is the foremost cause of morbidity and mortality (it is the primary cause of death in Portugal), but also because of its drain on the financial resources of the health system and, therefore, of society itself. The evaluation and the global treatment of patients with stroke, whether of ischaemic (the most common) or haemorrhagic origin, entails swift and safe diagnosis; the preparation of a prioritised list of emergent problems; provision of general and specific cares, and early rehabilitation both in hospital and in the post-hospitalisation period. This is only possible through a recently disclosed[23] classification scheme specifically targeting stroke victims, supported by recommendations for the development of CVA Units and approved, in August 2001, by the Directorate-General of Health.

The object of this strategy is to promote improvement of a stroke victim's access to swift diagnosis, adequate treatment and early and continuous rehabilitation.

To this end, the Directorate-General of Health will produce and publish:

- Technical guidance on the early treatment of the acute phase of CVA, destined for health professionals;
- Diagnostic and treatment referral networks for patients with suspected or incipient CVA ;
- Technical guidance for health professionals on post-CVA rehabilitation.
- Guidelines for post-CVA rehabilitation referral circuits to prevent any interruption in the process of rehabilitation.

Additionally, prominence will be given to

- the national implementation of a CVA "Fast Lane" to be developed, assessed and coordinated by the National Institute of Medical Emergency, with the support of the National Coordinator for Cardiovascular Diseases;
- the promotion and distribution of information enabling the general public to take the fullest possible advantage of the CVA "Fast Lane";
- promoting the swift access to a referral medical appointment of patients with possible transitory ischaemic accident, as recommended by the General Practitioner.

VII – STRATEGIES FOR IMPROVING INFORMATION SYSTEMS

1. IMPROVING INFORMATION ON THE EPIDEMIOLOGY OF ARTERIAL HYPERTENSION

AHT and isolated systolic hypertension are risk factors affecting the development of cerebrovascular disease, CAD, heart failure and other cardiovascular complications, the incidence of which in Portugal it is urgent to assess.

The aim of this strategy is to ascertain the high incidence and evolution of AHT in Portugal and the frequency of CVA in the hypertensive population.

To this end,

- scientific studies will be developed relating to the prevalence, treatment and control of AHT in Portugal.

2. IMPROVING INFORMATION ON THE EPIDEMIOLOGY OF CEREBROVASCULAR ACCIDENT

AHT is normally considered (albeit unknown, insufficiently-treated and poorly-controlled) the main cause of the high number of CVA in Portugal, in contrast to

the great majority of other E.U. countries. Data on the incidence of Atrial Fibrillation and its relation to CVA are scarce.

Recent epidemiological data on AHT in Portugal cannot, alone, explain the high incidence of CVA. Thus the possibility arises that the Portuguese population may have genetic or environmental characteristics which are different from those of other European countries, it being important, therefore, to ascertain an accurate perspective of the current situation in Portugal.

To this effect

- scientific studies will be undertaken on the prevalence, genetic and risk factors, treatment and control of CVA in Portugal

3. IMPROVING INFORMATION ON THE EPIDEMIOLOGY OF CORONARY ARTERY DISEASE

AHT and its risk factors are themselves CAD risk factors. The low mortality rate for ischaemic heart disease is paradoxical in comparison with the high mortality rate resulting from cerebrovascular disease, in contrast to that verified in the remaining EU countries.

The prevalence in Portugal of CAD and the true extent of acute coronary syndromes are unknown. The statistical mortality rates may not therefore reflect the true dimension of the problem. In confirming current data, consideration must be given to the genetic and environmental differences that exist between the Portuguese and other European peoples, making an accurate assessment of the prevailing Portuguese situation particularly important.

The present strategy aims to discover the prevalence of heart disease in Portugal and the incidence of acute coronary syndromes, their treatment and consequences.

To this end

- scientific studies will be undertaken on the prevalence, treatment and control of CAD in Portugal.

4. IMPROVING INFORMATION ON THE EPIDEMIOLOGY OF PERIPHERAL ARTERIAL DISEASE

Peripheral arterial disease (PAD), in addition to constituting a condition of risk for the lower limbs, is acknowledged as an important global cardiovascular risk marker. It is frequently associated with advanced symptomatic atherosclerotic disease of the heart, brain and visceral circulatory systems.

Risk factors for the development of PAD are similar to those for CD, with particular emphasis on diabetes mellitus and cigarette smoking. The great majority of PAD sufferers die as a result of an acute heart attack or a CVA and not from a local vascular complication of the lower limbs. Only a few individuals suffering from PAD are identifiable by the typical clinical manifestations of this pathology, such as intermittent claudication of the lower limbs but the greatest cardiovascular risk is found in those individuals suffering from assymptomatic PAD.

Knowledge of the current PAD incidence in Portugal provides, therefore, a great opportunity to intervene in the prevention and control of the cardiovascular diseases.

To this end:

- scientific studies will be undertaken on the prevalence, treatment and control of PAD in Portugal.

5. IMPROVING INFORMATION ON THE EPIDEMIOLOGY OF ATRIAL FIBRILLATION

Atrial Fibrillation (AF) is the most frequently encountered chronic arrhythmia in clinical practice. Its prevalence increase with age and is greater in patients suffering from heart failure or valvular heart disease. AF is an important cause of hospitalisation as a result of abnormal heart rhythm and the mortality rate of individuals suffering from AF is about twice as high as of those suffering from normal sinusal rhythm.

The risk of ischaemic CVA is twice to seven times greater when AF is present, so that this arrhythmia is responsible for about one in six CVA. CVA attributable to AF is more frequently incapacitating than that resulting from other causes.

Diagnosis of the current incidence of AF in Portugal has important implications for the orientation of the prevention and control strategy of CVA, the acute vascular manifestation most frequent among the Portuguese population.

To this effect:

- scientific studies will be undertaken on the prevalence, treatment and control of AF in Portugal.

6. IMPROVING INFORMATION ON THE EPIDEMIOLOGY OF HEART FAILURE

AHT and heart disease inexorably lead, in the absence of CVA or sudden death, to cardiac insufficiency. As in other European countries, the prevalence of heart failure in Portugal also increases with age, the repercussions of which in the coming years will irrevocably constitute a serious public health problem. An immediate assessment of the present situation in Portugal, therefore, becomes imperative.

In addition to appraising the prevalence of heart failure in Portugal and classifying existing resources for its diagnosis and treatment at both in- and out-patient level, the aim of this strategy is to discover the real needs arising from continued accompaniment.

To this end:

- scientific studies will be developed on the prevalence, treatment and control of heart failure in Portugal

7. MONITORING AND PROGRAMME EVALUATION

The monitoring of the implementation of the National Programme for the Prevention and Control of the Cardiovascular Diseases at a local level and within the health care services will be undertaken by those services which depend upon the Regional Health Administrations, by means of the following indicators, by sex:

- *Number of individuals identified as hypertensive*
- *Proportion of controlled hypertensive individuals*
- *Number of individuals identified as dyslipidaemic*
- *Proportion of controlled dyslipidaemic patients*
- *Number of identified smokers*
- *Proportion of smokers following anti-tobacco treatment*
- *Prevalence of individuals identified as suffering from heart disease*
- *Proportion of patients in Coronary Intensive Care Units*
- *Prevalence of patients with identified heart failure*
- *Proportion of hospitalisations due to heart failure*
- *Proportion of users of the "Coronary Fast Lane"*
- *Proportion of Cerebrovascular Accident victims using the "Fast Lane"*
- *Proportion of hospitalisations in Stroke Units*
- *Sentinel events** in Cerebrovascular Accidents and Ischaemic Heart Disease*

The monitoring of its impact at a national level on cardiovascular health gains will be carried out by a National Survey Commission, to be established by Dispatch of the High Commissioner for Health, through the following guidelines, by sex:

- *Incidence of Myocardial Infarction in the under 65s*
- *Incidence of Cerebrovascular Accident in the under 65s*
- *Annual mortality due to acute CAD*
- *Annual mortality due to acute CAD in individuals under the age of 65*
- *Annual mortality due to CVA*
- *Annual mortality due to CVA in individuals under the age of 65*
- *Number of years lost due to acute CAD*
- *Number of years lost due to CVA*

** Inadmissible occurrences which make the determination of their cause mandatory

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Saúde XXI

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