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ADDRESSING CARDIOVASCULAR DISEASES THROUGH RISK-FACTOR REDUCTION

Round Table 2

CONTENTS

BACKGROUND

1. The burden of cardiovascular diseases (CVDs) is increasing rapidly in Africa and this group of diseases is now becoming a public health problem throughout the WHO African Region. According to the World Health Report 2001, cardiovascular diseases accounted for 9.2% of the total deaths in the Region in 2000 (more than the deaths caused by malaria) as compared with 8.15% in 1990. Yet, there is inadequate awareness of the magnitude of the problem and the potential for its prevention.

2. By definition, CVDs affect the heart and the blood vessels of the body. CVDs can be congenital or acquired. The most important of the acquired CVDs are: hypertension,[1] stroke, cardiomyopathies, and coronary artery disease.

3. Stroke and cardiac failure, usually associated with hypertension, are the most common forms of heart disease in the African Region. The number of cases of coronary heart disease is increasing, though at a slower rate than in Western countries. Rheumatic heart disease remains a major health concern in the Region.

4. The growth in the incidence of CVDs in Africa is linked to the adoption of lifestyles that, along with other factors, increase the possibility of being affected by these diseases. These are called risk factors. The first set of risk factors for CVDs, which include ***family or personal history of cardiovascular disease, race,[2] gender[3] and age,***[4] are not modifiable by interventions.

5. Other well-established risk factors for CVDs are: ***hypertension, smoking, obesity, physical inactivity, unhealthy diet, high cholesterol, excessive alcohol consumption*** and ***diabetes***.[5,6] These risk factors are amenable to prevention or control through the adoption of appropriate health policies by governments which encourage the adoption of healthy lifestyles by individuals.

6. ***Hypertension*** is closely related to the risk of stroke, coronary heart disease and cardiac and renal failure. Its prevalence is very high in some countries.[7] Some studies carried out in the Region show a clear relationship between the level of blood pressure, salt and fat consumption and body weight. Studies

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[1]Hypertension is a risk factor for CVDs and a CVD itself. Depending on the context, it is mentioned in this paper either as a risk factor or as a disease.

[2]Black people are more prone to severe hypertension and stroke than the Caucasians.

[3]Men tend to develop heart disease earlier than women.

[4]The older the people, the greater the chances of their developing heart disease and stroke.

[5]Diabetes is a disease affecting several organs of the body and is also a risk factor for CVDs.

[6]Other established or probable risk factors have been identified. For instance, it is now clear that foetal and infant growth are related with the incidence of coronary heart disease in adult age; stress as a predictor of hypertension is still controversial; in the worst-affected countries, the HIV/AIDS epidemic has raised the number of cardiomyopathies. However, these factors are either already taken care of through other initiatives or programmes (reproductive health, HIV/AIDS prevention and control), need more research or are not amenable to cost-effective preventive interventions. Hence, the focus is only on the "core" CVD risk factors which are being considered in this paper.

[7]The prevalence ranges from 15/100 to 30/100 in certain urban areas of Ghana, Mauritius, Nigeria and Zimbabwe, while in rural areas of the same countries the prevalence is much lower, ranging from 3/100 to 9/100.

in Ghana, South Africa and Zimbabwe showed an increase in the prevalence of and mortality due to stroke, matching the increase in risk factors, especially hypertension, obesity, tobacco use and diabetes.[8]

7. ***Tobacco,*** of which the consumption is on the increase in the African Region, is a leading cause of heart attack and peripheral vascular disease; it also increases the risk of stroke.

8. ***Obesity,*** particularly when coupled with physical inactivity, is a major determinant of diabetes, high cholesterol and hypertension. ***Unhealthy diet,*** i.e. high intake of food and/or imbalanced diet with high amounts of salt, sugar and saturated fat, and poor consumption of fruits and vegetables, increases cholesterol and body weight, leading to hypertension, diabetes and coronary heart disease.

9. The risk of coronary heart diseases and stroke increases as the level of serum ***cholesterol*** increases. Factors responsible for increase in cholesterol levels are: genetically-determined abnormalities involving cholesterol metabolism, dietary fat intake, physical inactivity, obesity and smoking.

10. ***Excessive consumption of alcohol*** is a major risk factor for hypertension and diabetes, which may also lead to degenerative changes of the heart.

11. ***Diabetes,*** the incidence of which is increasing in the Region, is a major risk factor for coronary heart disease, stroke, peripheral vascular disease and cardiac and renal failure.

12. People with one or more risk factors are more prone to CVDs than those without any. In most of the cases, risk factors do not occur in isolation; they are usually associated and interact in a way that results in a much greater probability of developing the disease. This fact is the foundation on which to build a global approach to risk-factor reduction.

13. Poverty and exposure to risk factors for CVDs are closely linked. Two examples of this are: the rapid increase in tobacco consumption and its relationship with low level of education among smokers; and the increase in the consumption of high fat/low fibre foods, replacing vegetables and fruits among the poor.

14. Disability and mortality caused by CVDs are more frequent among the poor and occur more prematurely in the African Region than in Western countries, fuelling the vicious circle of ill-health/poverty/ill-health.

15. Another CVD of major public health concern is rheumatic heart disease (RHD). RHD affects primarily the valves of the heart and is caused by rheumatic fever (RF) that follows a streptococcal infection. It is the most common cause of acquired heart disease in children and adolescents. RHD is a typical disease of poverty and is a major cause of disability and death in Africa, despite the existence of cost-effective preventive interventions.

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[8]Nyame PK, Jumah KB, Adjei S. CT scan of the head in evaluation of stroke in Ghanaians. *East Afr Med J* 1998; 75(11):637-9; Bam WJ, Yako PM. Correlation between hypertension and cardiovascular accidents in black patients. *S Afr Med J* 1984; 65(16):638-41; Matenga J, Kitai I, Levy L. Strokes among black people in Harare, Zimbabwe. *Br Med J* 1986(21)292:1649-51.

FRAMEWORK

16. Important steps taken in the fight for the prevention and control of cardiovascular diseases through risk-factor reduction were the adoption of the regional strategies for health promotion and the prevention and control of noncommunicable diseases (NCDs). Both these strategies envisage a comprehensive approach to inter-related risk factors.[9]

17. Exposure to the risk factors can be prevented by relatively inexpensive population-based measures like legislative and fiscal actions that can create an enabling environment for the adoption of healthy lifestyles. These policy decisions can be reinforced by health education efforts to encourage life-long physical activity, prevent people from taking up smoking, and promote consumption of diets that restrict the intake of saturated fats and salt. This is known as **primordial prevention.**[10]

18. In a large study carried out in the United States of America, it was evident that modest lifestyle changes in groups at risk -- eating less fat, exercising two-and-a-half hours a week and loosing a moderate amount of weight – can reduce the incidence[11] of diabetes by more than a half. A well-tailored surveillance system can identify people with risk factors well before the occurrence of CVDs and their management taken up. This is known as **primary prevention**. Interventions such as helping people to quit smoking and management of hypertension and obesity (diet and physical activity) can substantially reduce the risk of CVDs.

19. Through systematic screening, early detection of CVDs and the contributory risk factors can be accomplished. Here, control of the risk factors coupled with appropriate case-management can help prevent complications like sudden death, stroke and cardiac failure. This is known as **secondary prevention.**

20. Primordial and primary prevention are both population-based approaches and are the most cost-effective ways of reducing the prevalence[12] of the risk factors for CVDs, which *inter alia* reduce the global burden of CVDs in the community. Secondary prevention addresses the high-risk groups and is aimed at reducing the complications of CVDs, but does not reduce the incidence of the disease.

21. Setting up a surveillance system based on the risk-factor approach is crucial to the success of any programme aimed at preventing and controlling CVDs as it allows the identification of high-risk groups and monitoring of trends over time.

22. Research is also a priority due to the scarcity of data on CVDs, their risk factors and determinants and the need to ascertain the effectiveness of certain interventions in the Region.

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[9]These documents are in line with the relevant WHO recommendations expressed in the Ottawa Charter and the Adelaide and Jakarta declarations (documents WHO/HPR/HEP/95.2, WHO/HPR/HEP/95.1 and WHO/HPR/HEP/41CHP/BR/97.4).

[10]An example of the success story in the Region comes from Mauritius where government legislative action in changing the composition of cooking oil from largely palm oil (high in saturated fatty acids) to wholly soya bean oil resulted in a fall in blood cholesterol levels in the population (Ebrahim S, Davey Smith G. Exporting failure? Coronary heart disease and stroke in developing countries. *Int J Epidemiol* 2001;30:201-205).

[11]Number of new cases of a disease.

[12]Total number of cases of a disease.

23. Prevention of RF/RHD relies on a systematic screening for and treatment of streptococcal infection of the throat among the most vulnerable groups: the poor and the deprived children and adolescents.

CHALLENGES

24. In most countries, CVDs are not yet given the attention they deserve. There is need to strengthen advocacy in order to ensure political commitment from governments and enhance the stewardship role of ministries of health in the multisectoral approach of reducing/eliminating the risk factors for CVDs.

25. The real magnitude of the risk factors for CVDs (and of CVDs themselves) in the Region is not fully understood and there is need for more research and establishment of surveillance systems to refine the knowledge of the problem and monitor the trends.

26. An integrated approach to the prevention and control of CVD risk factors at all levels of the health system, especially at the primary health-care level, is the key to address CVDs.

27. National programmes for the prevention and control of RF/RHD are not well-implemented in many countries where the incidence of the disease is high.

28. Mobilizing more resources and reallocating some of the funds allocated for tertiary care to CVD risk-factor reduction activities -- as part of a comprehensive noncommunicable diseases prevention and control programme -- will be a good indicator of a policy orientation aiming at reducing the burden of CVDs.

DISCUSSION POINTS

29. How to strengthen the capacities of ministries of health in order to enable them to play their stewardship role in a multisectoral approach to CVD risk-factor reduction?

30. How to get more reliable data on CVD risk factors in the Region? How to take advantage of the WHO stepwise approach to NCD surveillance ("STEPS"[13])?

31. How to ensure provision of adequate health-care facilities and health and medical workers to meet the challenge posed by NCDs in general and CVD risk factors in particular?

32. How to ensure appropriate resource allocation/reallocation for CVD risk-factor approach?

33. How to ensure the implementation/strengthening of national programmes for the prevention and control of RF/RHD?

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[13]STEPS: This is a new standardized initiative developed by WHO to help developing countries to address the issue of lack of data and the surveillance of NCDs in general and CVD risk factors in particular. More information on this can be found on the WHO website (www.who.ch).

EXPECTED OUTCOMES

34. Recommendations for Member States and WHO on employing the most effective ways to improve the prevention and control of CVDs througth the risk-factor reduction approach.

35. Proposals on the mechanisms of getting more and reliable information on CVD risk factors in the Region.

36. Proposals on how to ensure adequate health-care facilities and health and medical workers to meet the current situation of NCDs, especially the risk factors of CVDs.

37. Recommendations on ways to ensure increased resource allocation for the implementation of CVD prevention and control programmes through risk-factor prevention and control.

38. Recommendations on how to start/strengthen the implementation of national programmes for the prevention and control of RF/RHD.