

NMH Reader

Women and the Rapid Rise of Noncommunicable Diseases



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Abstract

As the world struggles to cope with communicable diseases like TB and HIV/AIDS, noncommunicable diseases (including mental disorders and injuries) are rapidly on the rise. The rapid rise in noncommunicable diseases represents one of the major health challenges to global economic and social development. It disproportionately affects those in greatest need – the poor, often women and children, and contributes to increasing health inequalities between and within countries.

The conditions in which people live and their lifestyles influence their health and quality of life. The most prominent noncommunicable diseases are linked to common risk factors, namely, tobacco use, alcohol abuse, unhealthy diet, physical inactivity, and environmental carcinogens. These risk factors have economic, social, gender, political, behavioural, and environmental determinants. Improved understanding of the risk factors and their determinants provides opportunities for the prevention and control of noncommunicable diseases.

This paper describes some of the determinants of the rapid rise in noncommunicable diseases and the challenges this advance poses. It pays specific attention to the impact of noncommunicable diseases on women. Health is linked to status in society. It benefits from equality and suffers from discrimination. For women, the rapid rise in noncommunicable diseases not only affects their health directly, it can also severely impact on their assumed gender role as unpaid carers of the sick.

Introduction

The rapid rise of noncommunicable diseases represents one of the major health challenges to global economic and social development. It disproportionately affects the poor and disadvantaged populations, and contributes to widening health gaps between and within countries. The conditions in which people live and their lifestyles influence their health and quality of life. The most prominent noncommunicable diseases are linked to common risk factors, namely, tobacco use, alcohol abuse, unhealthy diet, physical inactivity, and environmental carcinogens. These risk factors have economic, social, gender, political, behavioural, and environmental determinants. Improved understanding of the risk factors and their determinants provides opportunities for the prevention and control of noncommunicable diseases.

This paper describes some of the determinants of the rapid rise in noncommunicable diseases and the challenges this advance poses. It pays specific attention to the impact on women. Health is linked to status in society. It benefits from equality and suffers from discrimination. For women, the rapid rise in noncommunicable diseases not only affects their health directly, it can also severely impact on their assumed gender role as unpaid carers of the sick.

The double burden of disease

As the world struggles to cope with infections and communicable diseases like TB and HIV/AIDS, noncommunicable diseases are rapidly on the rise. The impact of both communicable diseases and noncommunicable diseases on Countries is often referred to as the “double burden of disease”. Health ministers from 191 countries attending the World Health Assembly in May 2000 pointed to the growing and largely unaddressed burden of noncommunicable diseases and passed a resolution (WHA 53.17) calling on WHO to urgently pay attention to this epidemiological transition.

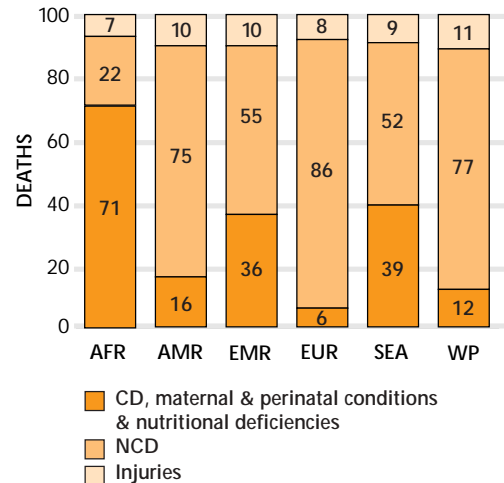
WHO continually updates its data with respect to deaths from major causes. Data for 1999 highlight the increasing impact of noncommunicable diseases such as cardiovascular disease, cancer, and chronic respiratory disease on total death rates in all WHO regions. Contrary to popular belief, these diseases are not the diseases of the rich. In 1999, cardiovascular diseases, as one critical example, accounted overall for about 1 in 10 deaths in Africa; 3 in 10 deaths in South-east Asia; 1 in 3 of all deaths in the Americas, the Eastern Mediterranean and the Western Pacific; and 1 in 2 of all deaths in the European region¹.

Figure 1 shows the percentage of deaths by cause in the different WHO regions (the African Region; the Americas; the Eastern Mediterranean Region; the European Region; the South East Asian Region; and the Western Pacific Region) for 1999. In the African Region, 71% of the deaths are caused by communicable diseases. In the other regions, noncommunicable diseases are responsible for the majority of deaths.

Four of the most prominent noncommunicable diseases, namely cardiovascular disease, cancer, chronic obstructive pulmonary disease and diabetes, are linked by common preventable risk factors related to lifestyle. These factors are tobacco use, unhealthy diet and physical inactivity. Tobacco, for example, accounts for around 1 in 3 cancer deaths reported worldwide: and in this respect cancer deaths account for 1 in 20 deaths in Africa; 1 in 14 deaths in the Eastern Mediterranean and South East Asia; and 1 in 5 deaths in the American Region, Europe and the Western Pacific. In contrast, TB, malaria, and AIDS deaths combined, accounted for 1 in 3 deaths in Africa; 1 in 12 deaths in South-east Asia; 1 in 20 deaths in the Eastern Mediterranean; 1 in 30 deaths in the Western Pacific; 1 in 50 deaths in the Americas and about 1 in 100 deaths in

Figure 1

Percentage deaths by cause in WHO Regions for 1999



World Health Report 2000

Europe¹. Tobacco deaths are rising in places where AIDS, malaria and TB have been under control, as well as in places where they remain all too common. Risk factors such as tobacco and alcohol are globally marketed.

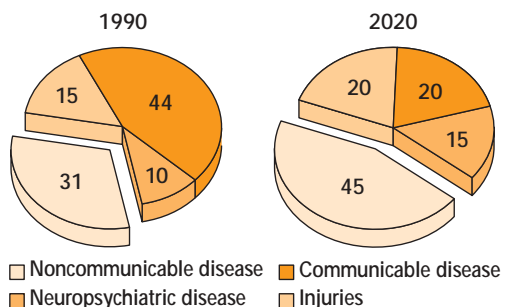
Conservative estimates show that by 2020 three out of four deaths worldwide will be due to noncommunicable diseases². Mortality tells, however, only half the story.

Noncommunicable diseases, as well as communicable diseases such as TB or AIDS, also cause disability, often chronic, which can have a severe impact on families, communities, and health services. Trends show that by 2020, noncommunicable diseases including cardiovascular diseases, cancer, respiratory diseases, digestive diseases, mental disorders, and conditions related to injuries and violence will account for nearly 80 % of the global burden of disease². This trend will continue to develop globally, particularly in large countries facing rapid ageing of their populations.

Figure 2 shows the estimated global burden of disease by the year 2020². This figure has led

Figure 2

The global burden of disease by the year 2020



Murray & Lopez, Global Burden of Disease, 1996

to many discussions as projections for noncommunicable diseases can be made with greater certainty than projections for communicable diseases and injuries. It is for example easier to predict future diseases and deaths related to the current consumption of tobacco than deaths from new diseases like HIV/AIDS, future disease outbreaks such as Ebola, or injuries and deaths resulting from a war.

Opportunities during the life course and the impact on health

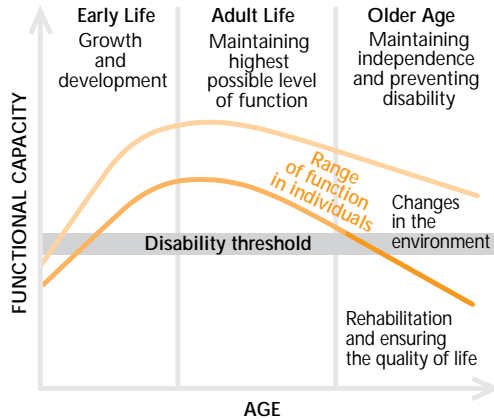
In terms of life expectancy, women are known to have an advantage over men. This advantage is partly linked to innate genetic and biological differences between the sexes but to a larger extent relates to risk behaviour, such as alcohol and tobacco consumption. This advantage starts at birth and continues through the life of the individual, with men having greater vulnerability than women to diseases and injuries leading to death. Under normal circumstances, women can be expected to outlive men by several years. Where women's life expectancy is only slightly higher, similar to or even lower than that of men, cultural, social, economic, and/or environmental factors detrimental to women may have offset this "natural" advantage³.

However, longer lives are not necessarily healthy lives. A life course perspective suggests that individual health status at any given time reflects cumulative exposure to social, physical and psychological factors. A life course approach allows a better understanding of how roles, culture, biology, personal behaviour and socioeconomic factors combine to affect the health of men and women and emphasizes the

need to promote health at all stages of the life cycle. It suggests that the long-term likelihood

Figure 3

A Life Course Perspective on Health and Ageing



WHO, 1998 (adapted)

of noncommunicable diseases can be reduced by interventions earlier in life, e.g. smoking cessation during pregnancy in order to avoid a low-birth-weight baby; breastfeeding in early life as a protection against diseases in later life⁴.

As shown in Figure 3, the functional capacity of human biological systems (meaning mainly physical capacity here) increases in the early years, reaches its peak in early adulthood and naturally declines thereafter. The feminisation of global ageing and longer life expectancies of women in almost all areas of the world suggests that delaying this decline and maintaining function above the disability level must be a primary goal for the promotion of women's health and quality of life. The slope and speed of the decline for both individuals and populations is largely determined by external factors,

not biology. For example, smoking or continuing exposure to tobacco smoke can accelerate the natural decline in cardio-respiratory function. Poor nutrition in childhood and inadequate exercise in the 30s and 40s can accelerate the decline in bone density and predispose women to osteoporosis in later life.

A life course perspective on health also draws attention to the need for more policies and more equitable sharing between men and women in terms of family roles, particularly care giving⁴. In some cultures, girls are expected to care for other family members beginning at a very young age. When women become mothers they are expected to provide the majority of child care. With the ageing of populations, the peak age of care giving for women lies increasingly between the age of 45 and 64. These middle aged women find themselves caring for children still at home as well as older parents and parents-in-law. Older women are the major care givers of male partners who are ill, as well as of other older women. Women are now also increasingly caring for AIDS patients. Interrupted education and working lives make women less able to accumulate savings or social security. The provision of family care is often achieved at the detriment of the female care givers' own security and good health in later life.

Despite many development gains in the last century, poverty continues to grow, and the gap between rich and poor is widening. A disproportionate share of the burden of poverty rests on women's shoulders and undermines their health. WHO estimates that 70% per cent of the 1.2 billion people living in poverty are female⁵. There are twice as many women as men among the world's 900 million illiterates. For the poor and the near poor of both

sexes, sickness is a catastrophe which can lead to economic ruin.

“While girls and women are most disadvantaged by gender-disparities, these inequalities reduce the well-being of all people. Societies that discriminate on the basis of gender pay a significant price – in more poverty, weaker governance, and a lower quality of life”⁶.

Determinants of the increase in noncommunicable diseases including mental disorders and injuries

Several factors drive the increase in noncommunicable disease incidence and injuries. Some of these factors are amenable to intervention while others are not. In time, with very few exceptions, all causes of disease, disability and death will occur at higher rates among the poor than the rich. For some countries and groups, early response to determinants could avert future epidemics, for example, the prevention of tobacco use among Chinese women. For others, better access to reoriented health services could reduce current and growing social class and gender inequities in health

The Determinants of Noncommunicable Diseases, Mental Disorders & Injuries

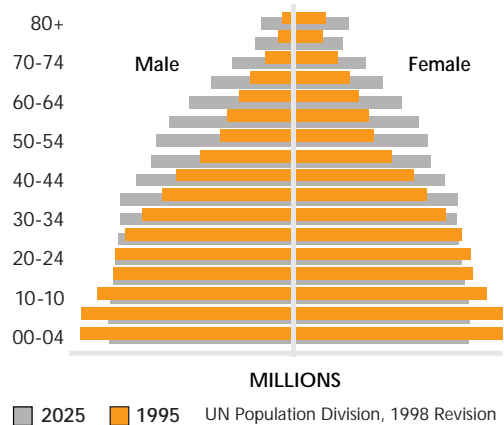
- ✓ Rapid demographic and social changes
- ✓ Infectious diseases, undernutrition & trauma
- ✓ Changes in consumption patterns
- ✓ Rapid urbanization, changes in work opportunities & social disintegration
- ✓ Health services

status. Each of the following determinants will be illustrated with examples.

1. Among those factors that are **not** amenable to intervention is the **rapid demographic and social changes** that underlies much of the health transition. These changes reflect successful policy interventions that have taken place during the recent decades. The challenge now is to ensure that as populations age, they do so with minimum health impairments; that is, to

Figure 4

Population Pyramid in 1995 and 2025

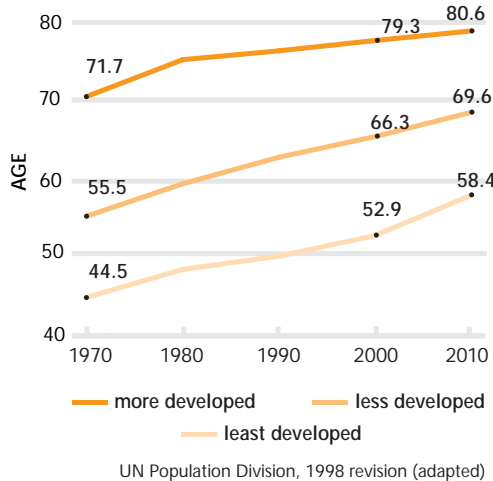


ensure that they age healthily. This challenge is particularly pressing in lower and middle income countries where the poorer young now increasingly survive to adulthood.

According to the UN (2000), life expectancy has continued to increase for women and men in Asia, Northern Africa and Latin America and the Caribbean. The greatest gains in recent years were in Southern Asia, Northern Africa, and Central and South America, where life

expectancy increased by about two years. In most countries of the developed regions, life expectancy has remained high. At the same time, the negative trend in life expectancy observed in the past 20 years in transition countries, especially for men, has partly reversed. Estimates of life expectancy for

Figure 5
Life expectancy at birth (women) by country development, 1970 to 2010



women and men show a dramatic decrease in Southern Africa, where AIDS has contributed to a high mortality rate⁷.

Figure 4 shows the population pyramids for 1995 and 2025. Both the male and female populations are ageing. Figure 5 shows the life expectancy at birth for women for least, less, and more developed countries from 1970 and projected to 2010. The increase in life expectancy between 2000 and 2010 is expected to be greatest for the least developed countries.

In 2000, there were about 605 million older people aged 60 and over; in just 25 years that number will double to 1.2 billion. The majority of older persons are women (55%); among those who are 80 years or older, 65% are women. The older population itself is ageing. Currently, persons 80 years and older constitute 11% of the population aged 60 and above. By 2050, 27% of the older population will be 80 years old⁷. The population over age 80 is the fastest growing segment of the older population. The vast majority of older women and men are in generally good health, especially during the “young-old” ages. It is mostly after the age of 80 that many people need help with the instrumental or basic activities of day-to-day living.

The number of hip fractures worldwide because of osteoporosis is expected to rise three-fold by the middle of the next century, from 1.7 million in 1990 to 6.3 million by 2050. The higher occurrence of these fractures in women is related to important postmenopausal changes in bone metabolism and to the fact that they live almost one third of their lives after menopause. At the present time, the majority of hip fractures occurs in Europe and North America. It is estimated that 50 years from now, as a result of the unprecedented increases in the number of the elderly in Asia, Africa and South America, up to 75% of all hip fractures will be occurring in the developing countries⁸.

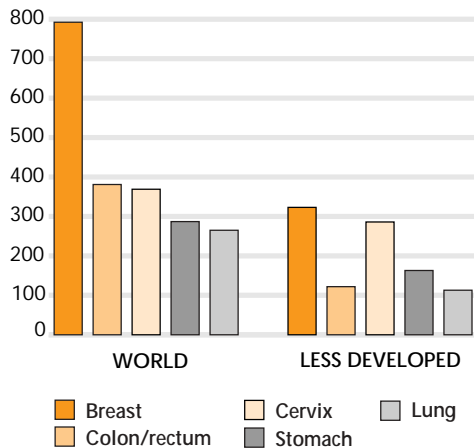
II. The second set of factors driving the increase in noncommunicable disease incidence stems from **infectious diseases, under-nutrition and trauma**, all of which are amenable to intervention. Blindness caused by trachoma, onchocerciasis, and vitamin A deficiency fall into this set; as does epilepsy among the poor, and musculo-skeletal disability caused by polio

and motor vehicle trauma. It is, for example, estimated that $\frac{3}{4}$ of all causes of blindness reported in 1997 are responsive to interventions⁹.

Of the 2 billion men and women who have been infected with the Hepatitis B virus, more than 350 million have chronic (life long) infections. These chronically infected persons are at a high risk of death from cirrhosis of the liver and liver cancer, diseases that kill about one million persons a year¹⁰.

Figure 6

Incidence of most common cancers among females for 1990 (000)



Pisani et al., IARC, 1999

For women, human papilloma virus (HPV) infection is an example of an infectious disease leading to a chronic condition. It is now clear that HPV infection, one of the most common sexually transmitted infections (STIs), is a necessary cause for cervical cancer and important efforts are being devoted to the development

of safe and effective HPV vaccines to prevent and treat cervical neoplasia. Approximately 500,000 cervical cancers are diagnosed yearly, particularly among poor and multiparous women in developing countries. More than 200,000 women die each year from the disease¹¹. Figure 6 shows the incidence of most common cancers among females for 1990¹².

There is growing epidemiological and laboratory evidence indicating that tobacco is a risk factor for tuberculosis and for death from tuberculosis. In South Africa, for example, 20% of TB deaths are related to tobacco. However, despite the fact that a very high percentage of tuberculosis patients smoke in all settings for which data are available, opportunities to treat tobacco dependence in such patients are under-utilized¹³.

Overweight, particularly abdominal fatness, is a well-established risk factor for cardiovascular disease, adult-onset of diabetes, stroke, and mortality. Exposure to famine during early pregnancy (malnutrition) and low birth weight have been associated with adult obesity and greater waist:hip ratio. In developing countries, intrauterine growth retardation and poor linear growth during childhood, are common because of poor diets and high rates of infection. Schroeder et al. (1999) analysed data on 372 female and 161 male Guatemalans measured as children between 1969 and 1977 and re-measured as adults in 1988-1989 (men and women) and 1991-1994 (women only). The authors conclude that, where maternal and child malnutrition exists alongside rapid economic development and migration from rural to urban areas (with exposure to Western diets and lifestyles), abdominal obesity and related chronic disease are likely to increase. In a subset of women only, indicators of poor fetal

growth were found to be even better predictors of higher adult abdominal adiposity than was poor postnatal growth; newborns who were lightweight because they were both short and thin at birth had the highest risk for abdominal fatness in young adulthood¹⁴.

Injuries and violence may also lead to chronic disability. Every day around the world, almost 16 000 people die from injuries. It is estimated that 3.8 million men and 1.9 million women died from injuries in 1998¹⁵. For every person who dies, several thousands more are injured, many of them with permanent sequelae of injuries. Injuries occur in all regions and countries, and affect people in all age and income groups. The magnitude of the problem varies considerably by age, sex, region and income group. Overall, men are more likely to suffer injuries than women. However, there are some notable exceptions, such as burns because of the use of open fires for cooking, heating and lighting in India, where women are more affected than men, and fatal cases of suicide in China, where there are more fatalities among women of childbearing age than among men of the same age.

Globally, at least 585,000 women die each year from the complications of pregnancy and childbirth. Almost 90 per cent of these deaths occur in sub-Saharan Africa and Asia, making maternal mortality the health statistic with the largest discrepancy between developed and developing countries. While women in northern Europe have a 1 in 4,000 likelihood of dying from pregnancy-related causes, for those in Africa the chance is 1 in 16. More than 70 % of all maternal deaths are due to five major complications: haemorrhage, infection, unsafe abortion, hypertensive disorders of pregnancy, and obstructed labour. The majority of deaths

(61 %) occur in the postpartum period, and more than half of these take place within a day of delivery. An estimated 40 % of pregnant women (50 million per year) experience pregnancy-related health problems during or after pregnancy and childbirth, with 15 % suffering serious or long-term complications. As a consequence, 300 million women today suffer from pregnancy-related health problems and disabilities, including anaemia, uterine prolapse, fistulae (holes in the birth canal that allow leakage from the bladder or rectum into the vagina), pelvic inflammatory disease, and infertility¹⁶.

III. The third set of factors driving the increase in noncommunicable disease incidence is preventable and arises from a **combination of changes in consumption patterns**.

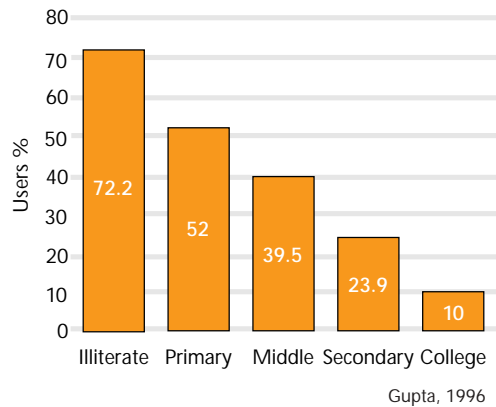
Changing consumption patterns are a result of globalized marketing and trade of many consumer goods in the absence of strong national laws and education programmes, combined with rising disposable incomes in developing countries¹⁷. It has led to increased consumption of tobacco, alcohol, to displacement of vegetables and fruits with high fat/low fibre foods, and reduced physical activity. The consequences of the changes in consumption patterns and behaviours are already visible in terms of rising levels of lung and other tobacco-related cancers, diabetes and chronic respiratory disease.

In many parts of the world, smoking prevalence among women is still low. Women and children comprise, however, the majority of “involuntary smokers” (those who often suffer diseases and conditions related to second-hand smoke). They also comprise a growing population of smokeless tobacco users¹⁸. In parts of Southern Asia, for example, 10 to 50 per cent

of women of reproductive age are users of chewing tobacco, with its attendant health risks. Studies have shown that consumption of tobacco is highest among less educated

Figure 7

Tobacco use and educational level among females in Bombay 1992-1994



women. Figure 7 shows tobacco use and educational level among females in Bombay, India, 1992-1994¹⁹.

WHO estimates that of all adults in the world, one third – 1.1 billion people – are smokers. Overall, women account for roughly one in five of the world’s smokers (over 200 million). Smoking is most prevalent in the developed regions, for example, on average, 26 % of all women in Western Europe smoke, as do 22 % of all women in Eastern Europe. In Asia and Africa, prevalence rates are considerably lower for women than for men. In these regions, smoking prevalence among women is, on average, less than 10 %. In Sri Lanka, for example, smoking prevalence among women is among the world’s lowest - 1 %.

Women therefore comprise a huge potential market for the tobacco industry. Transnational tobacco companies use aggressive advertising campaigns and promotional strategies, including sponsoring events and hiring promoters to distribute free cigarettes to recruit women and girls worldwide. They promote the false association of tobacco with images of health, liberation, being slim, modernity, and stress relief.

In developed and developing regions alike, tobacco use is increasing rapidly among women, especially young women. This is particularly true in Denmark, Germany, Sweden and the USA, where more women aged 14 to 19 now smoke. Similarly, in some countries of Asia, there is an increase in smoking among women aged 18 to 24, even though there is an overall decrease in smoking. It is estimated that the number of women smokers will triple over the next generation. There is an urgent need for governments and the international community to develop effective gender-specific tobacco control strategies and to allocate funds for tobacco control programmes that also reach poor women and girls.

The findings of the WHO/US Centers for Disease Control and Prevention Global Youth Tobacco Survey (GYTS) show that one-fifth or more of young people begin smoking cigarettes before the age of 10 years. In most countries where the survey was held, boys are more likely than girls to use tobacco. Where this tendency is reversed, we may be witnessing the success of advertising by the tobacco industry in making cigarettes fashionable²⁰.

The use of words like “light” and “mild” and statements on tar and nicotine in advertising influences smokers, especially women, to switch to lower-tar cigarettes instead of quitting; it also

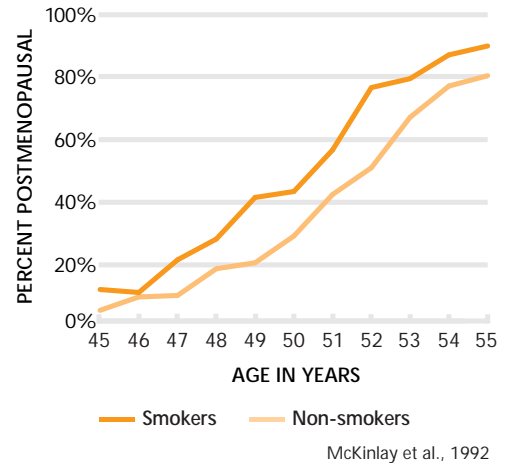
prompts young women to take up “light” brands, thinking they are safer. But a body of research, built up over the last decade, indicates they are not safer²¹.

The following quote from the tobacco industry shows that cigarette companies are aware that the terms “light” and “mild” are misleading and that the use of these terms exploit emotional needs and insecurities²²: “The success of Marlboro Lights derives from its being the aspirational lifestyle brand:

- ‘cool’, everybody’s smoking it in bars & clubs image;
- the Diet Coke of cigarettes”.

In face of the possible European Union directive that would ban terms such as “mild”, “light” and “low tar”, cigarette companies are now looking for new ways to communicate the “light” and “mild” messages. One way of doing that is by stressing colour. Recently, billboards across Germany carried a cigarette advertisement showing a packet of Benson & Hedges Lights cigarettes that ran the words “Imagine Life Without Silver”. This advertisement is linking low-tar cigarettes to specific soft colours or images. Even after the ban, Benson and Hedges Lights will be recognisable by their silver colour contrasting with the gold of the regular packs. White-and-gold Marlboro Lights will still suggest “lightness” just by the stark contrast to the red, full-strength Marlboros. The powder-blue Camel Lights with their pastel camel will still look milder than the ornery desert-ochre animal on the regular “Filters” pack. The appearance of the packet, including the strong colour relationship, is probably becoming the crucial marketing tool in the near future²¹.

Figure 8
Impact of smoking on onset of menopause



Apart from making women age prematurely, long-term tobacco use can cause heart disease and stroke; breast and cervical cancers; impaired fertility; unsuccessful pregnancies (including a higher risk of ectopic pregnancy and spontaneous abortion); osteoporosis; chronic lung disease, including bronchitis and emphysema; and, premature menopause.

Figure 8 shows that women who smoke, on the average, reach menopause two years earlier than non-smokers²³.

Growing evidence suggests that the health consequences of smoking may be worse for women than for men. For instance, women develop lung cancer earlier than men despite the fact that they often start to smoke later and smoke less. There are physiological reasons why women find it harder to quit than men. Women who smoke are at higher risk of

thrombosis (blood clot) than women who do not smoke as smoking simultaneously increases blood viscosity making the blood thicker, and constricts the blood vessels. The use of the contraceptive pill increases the risk of thrombosis even more. Women who are contraceptive pill users and smoke, are more likely to suffer myocardial infarction, brain haemorrhage, and migraine, than users who do not smoke²⁴.

As smoking rates in women continue to rise quickly in most parts of the world, it is becoming apparent that cancer of the lung may be the most common cancer in women worldwide in 20-30 years, unless effective action is taken. Lung cancer has already overtaken breast cancer in Sweden, the United Kingdom, and the United States of America, among other countries²⁵.

Women who smoke are also more likely than non-smokers to have low-birth-weight children. In the USA, throughout the past decade, smoking has remained the single most important modifiable cause of poor pregnancy outcome²⁶.

A declaration that highlights grave concerns about tobacco, particularly as it affects women and youth, was adopted at the WHO International Conference on Tobacco and Health, held at Kobe, Japan, in November 1999²⁷.

Global changes in smoking patterns and diets, in combination with a lack of physical exercise, the ageing of population, rapid urbanization and related stress, are the main driving forces behind the increase in cardiovascular diseases. Cardiovascular diseases include hypertension (high blood pressure), coronary heart disease (heart attack), cerebrovascular disease (stroke), and heart failure, among others.

The common view that cardiovascular diseases are men's health problems has overshadowed the recognition of the significance of cardiovascular diseases for women's health. Of the 27 million deaths worldwide in women each year, almost 10 million result from cardiovascular diseases and, of these, two third occur in developing countries. Heart disease and stroke are already leading causes in women in developed countries and will be the leading cause of death in women in poor countries in 2020²⁸. Women usually have cardiac infarction ten years later than men, because estrogen protects them from coronary heart disease in their childbearing years. In women, coronary heart disease and stroke are responsible for twice as many deaths as all cancers combined. Most women fear cancer, particularly breast cancer, more than heart disease. However, the risk of dying from breast cancer is relatively small when compared to the risk of dying from cardiovascular disease – 4% versus 44%. Women need to be educated that the risk of heart disease is 10-fold that of breast cancer²⁴.

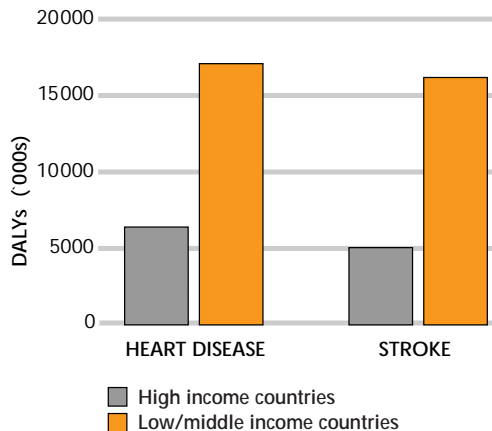
Figure 9 shows disability from cardiovascular disease in women expressed in Disability Adjusted Life Years (DALYs) in high income countries and in low/middle income countries²⁹.

At present, studies are looking at the role of hormone replacement therapy in primary and secondary prevention of coronary heart disease in women. The issue is controversial with recent studies showing no beneficial effects and some harmful effects.

The number of adults with diabetes in the world will rise from 135 million in 1995 to 300 million in the year 2025. The major part of this numerical increase will occur in developing

countries and will be due to population ageing, unhealthy diets, obesity and a sedentary lifestyle^{30,31,32}. Diabetes is a chronic condition, which develops when the pancreas does not produce enough insulin, or when the body cannot use the insulin produced effectively. The prevalence is higher in developed than in developing countries. The countries with the largest number of people with diabetes are, and will be in the year 2025, India, China and the USA. In developing countries, the majority

Figure 9
Cardiovascular disease disability in women, by country income



World Health Report 1999

of people with diabetes are in the age range of 45-64 years. In the developed countries, the majority of people with diabetes are aged 65 years and older. There are more women than men with diabetes, especially in developed countries. For 1995, for the world as a whole, there were 73 million women versus 62 million men with diabetes. The female excess is pronounced in the developed countries (31 versus

20 million), but in the developing countries, there are equal numbers of men and women with diabetes (42 million in each case). A likely explanation for the fact that there are more women than men with diabetes in many developed countries is the greater longevity of women. However, in the developing countries, diabetes is more common in the middle-aged than the elderly, under which circumstances the previous explanation is less likely. In this case, it may be differential distribution of risk factors – especially diet, physical activity, and obesity – in men and women that may determine the male/female ratio. Diabetes during pregnancy may give rise to several adverse outcomes, including congenital malformations, increased birth weight and an elevated risk of prenatal mortality.

IV. The fourth group of factors driving the increase in noncommunicable disease incidence, includes **rapid urbanization, changes in work opportunities, and social disintegration**. These determinants combined with other factors such as poverty, alcohol consumption, marketing of weapons and violent scenes through the internet and other media, work in complex and often ill-defined ways. However, their impact can be seen in increasing levels of different forms of violence in the society and in the rising incidence of mental disorders in disadvantaged communities and countries.

Besides a complex mix of genetic, biological, social and psychological factors, gender plays a critical role in mental health and mental illness. Referring to the socially determined differences between men and women, gender affects the level of power and control men and women have over the social determinants of their mental health, including status and role, employment, income, opportunities and treatment in society.

Gender also significantly influences susceptibility and exposure to specific risks to mental health, for example, the risk of sexual violence³³.

Although there is no difference between men and women in the overall prevalence of mental disorders, there are significant differences between men and women in the pattern of the disorders as well as in psychological symptoms. The difference varies during the different life phases. Most studies show a higher prevalence of mental health problems in younger boys than girls, the former experiencing more conduct disorders, with aggressive and antisocial behaviours. During adolescence, the difference becomes smaller because girls experience more emotional problems, with fearful, anxious or over-controlled behaviours. In adulthood, men experience more alcohol and drug abuse and antisocial behaviour, while women experience more anxiety, depression and eating disorders. Moreover, men are much more likely to commit crimes (and more serious crimes) than women, as indicated by their higher arrest and imprisonment rates, and are more likely to commit suicide or to become homeless. Although there is no single cause of suicide, more than 90% of those who commit suicide have a mental and/or behavioural disorder and between a quarter and a half of single homeless men are suffering from severe mental disorder³³.

While completed suicide rates are higher in men, a nine country study reported that women had consistently higher rates for suicide attempts. Gender-based violence is a significant predictor of suicidality in women, with more than 20% of women who have experienced violence attempting suicide. Rates of both suicide ideation and suicide attempts vary widely between countries³³.

Women also have significantly higher rates of post traumatic stress disorder (PTSD) than men. General population surveys have reported that around 1 in every 12 adults experiences PTSD at some time in their lives and women's risk of developing PTSD following exposure to trauma is approximately twofold higher than men's, and thus paralleling the difference found in rates of depression³³.

The WHO/World Bank disability adjusted life years (DALYs) data show that globally, depressive disorders account for almost 30% of the disability from neuropsychiatric disorders among women, but for only 12.6% among men. On the other hand, alcohol and drug dependence accounts for 31% of neuropsychiatric disability among men, but for only 7% of the disability among women³³.

The gender difference in depression is one of the most robust findings in psychiatric epidemiology. Gender differences in rates of depression are strongly age related, with the greatest differences occurring in adult life with no reported differences in childhood and few in the elderly. Depression may also be more persistent in women and being a woman is a significant predictor of relapse³³.

While gender differences in lifetime prevalence rates for schizophrenia are absent, there exist differences in risk and susceptibility, the timing of onset and course of disorders, diagnosis, treatment and adjustment to mental disorder³³.

In general, women are more likely to seek help from and disclose mental health problems to primary health care workers while men are more likely to seek specialist mental health care and are the principal users of inpatient care. Men are also more likely than women to disclose

problems with alcohol to their health care provider. Despite gender differences, most women and men experiencing emotional distress and/or mental disorders are neither identified nor treated by their doctor. An additional problem is that many people with mental problems do not go to doctors³³.

Gender stereotyping in diagnosis of mental problems further adds to the difficulties in identification and treatment. Even when presenting with identical symptoms, women are more likely to be diagnosed as depressed than men and less likely to be diagnosed as having problems with alcohol. Men are more than three times more likely to be diagnosed with antisocial personality disorder than women. There is evidence that the use of psychotropic drugs including antianxiety, antidepressant, sedative, hypnotic and antipsychotic drugs, is higher among women than men. This higher use of drugs may be partly explained by higher prevalence of common mental disorders in women and also a higher rate of help seeking behaviour. However, a significant factor is the prescribing behaviour of physicians, who often take the easier path of prescription when faced with a complex psychosocial situation, that actually required psychological intervention. Being a woman actually predicts being prescribed psychotropic drugs³³.

An extreme but common expression of gender inequality is sexual and domestic violence perpetrated against women. It is difficult to estimate the global prevalence of rape and sexual violence, as it is generally agreed that underreporting is widespread. Victims are hesitant to report incidents to police, health workers and researchers, for a number of reasons including fear of not being believed or being blamed, fear of reprisals, and shame. Despite this, stu-

dies consistently report significant levels of sexual violence beginning at an early age. According to studies in 19 countries, including 10 national surveys, levels of childhood sexual abuse range from 7 to 36 % for girls and 3 to 29 % for boys. Overall, girls were victims of sexual violence 1.5 to 3 times as often as boys³⁴. Sexual violence against women continues throughout the life course, both within and outside marriage. Although there is less data on sexual violence in marriage, studies consistently report that physical, sexual and psychological violence often overlap. Rape and sexual violence have significant consequences to the health of women and girls. Health workers and systems are often ill equipped to identify victims and respond to their needs. Research, health care practice and policy all require more work to develop effective responses.

WHO is developing the first World Report on Violence and Health. The goals of the report are to raise awareness about violence as a global public health problem, to highlight the contributions of public health to understanding and responding to violence, and to increase the level of response taken by the public health community to preventing the problem. Specific objectives are to describe the magnitude and impact of violence cross-nationally, to elucidate cross-national patterns of violence, providing a baseline for measuring change and progress, to summarise existing information on risk and protective factors and prevention and policy responses, to provide directions for future research, and to make recommendations for future action in public health. The report will include chapters on child abuse, youth violence, violence against women by intimate partners, sexual violence, elder abuse, self-directed violence and collective violence. A summary chapter will highlight current

knowledge and practices, as well as gaps, in the field of violence prevention.

V. The fifth group of factors involves **health services**, and are amenable to interventions. Health services in many countries are unable to address the current impact of HIV/AIDS and TB; and maternal mortality remains high. The shift in the burden of disease, including improved survival rates, will seriously challenge health care systems and difficult decisions will have to be taken about the allocation of scarce resources. These decisions will be further complicated by the fact that, for most conditions in the area of noncommunicable diseases and mental health, there is a lag between exposure to risk and visible outcomes.

Health care systems remain preoccupied with mortality. Saltman (1991) argues that one of the ways in which the existing health care systems discriminates against women is in its focus on mortality: “women’s major health needs lie in improving morbidity rather than mortality”³⁵.

The majority of low-income countries do not have the necessary resources to treat patients with chronic disease. Care is often only provided where disease has reached an advanced stage. There is an urgent need to develop inexpensive detecting methods, which are practicable in primary health care settings, and there is also a need to use existing interventions that would improve drastically patients’ quality of life. Mass cytological screening, for example, has largely brought cervical cancer under control in developed countries, however, this procedure is too expensive for most developing countries. Recently, a study was done in India, where cervical cancer is the leading malignancy in women, with about 90 000 new cases

reported annually, and where in more than 90% of these cases, the lesions are in an advanced stage by the time the patient seeks medical care. Cancers in these stages are disfiguring and painful, the treatment required is often mutilating and survival rates are low. The study, using a new type of elongated magnifying glass that illuminates and magnifies the cervix, detected 77% of cases of confirmed early cervical cancer offering a valid method of screening for cervical cancer in countries that cannot afford cytological screening³⁶.

If governments, often as a result of structural adjustment policies, cut their social expenditures in education and welfare, the impact will inevitably be felt most by those in greatest need – the poor, often women and children. Health care reform following reduced government spending on the health care system, tends to be characterised by “innovations” such as shorter hospital stays and “hospital in the home” and the implicit or explicit demand that more will be achieved with less so as to increase efficiency and better “target” health treatments and interventions. This “increase in efficiency” can, however, entail increased rates of unemployment or less secure employment for nurses and other health care professionals. Health sector reform can severely impact on women in their assumed gender role as unpaid carers of the sick. In addition, policies that enshrine the “user pays” principle are likely to differentially disadvantage women. It is obvious that those who have least to pay with, are forced to use least, regardless of their needs. Corresponding increases in rates of disease can rapidly reverse any previously achieved gains in health or development³⁷.

Gender-sensitive studies on pharmaceutical interventions are needed to better address the

specific needs of women and men of all ages. Currently, many therapies have never been tested on women. It was not until 1990 that the National Institute of Health (NIH) in the United States issued guidelines mandating the inclusion of women in clinical trials³⁷. In the area of smoking cessation during pregnancy, for example, not many studies have looked at the consequences of the use of different types of nicotine replacement therapy during pregnancy for women and their offspring, as testing may have a negative effect on the fetus, e.g. exposure of the unborn child to nicotine. Further studies are also needed regarding the relation between smoking and the onset of menopause, regarding the relation between tobacco consumption and the use of oral contraceptives, and regarding the role of hormone replacement therapy in primary and secondary prevention of coronary heart disease in women.

Responding to the Challenges

- ✓ More gender-specific information
- ✓ Addressing the double burden of disease through synergies between existing programmes & NCD control programmes
- ✓ Global & national multi-sectoral policies & interventions
- ✓ Transform health services to respond to the needs of patients with NCDs
- ✓ Reinforce the importance of Primary Health Care
- ✓ Expand partnership with purpose

Responding to the challenges

The advance in noncommunicable diseases can be reversed if appropriate action, such as improved surveillance, prevention programmes, community-based interventions, health care reform, and the use of fiscal and taxation policies to encourage healthy goods and services, is taken now.

- *Make noncommunicable diseases (including mental health disorders, injuries & violence) more visible through better gender-sensitive information*

Information disaggregated by sex and gender-sensitive information about the determinants and the impact of chronic diseases is needed. Recent global conferences have made the gender issues in health over the entire lifespan a focus for improved data collection and statistical analysis³. In addition to global projections on death, disease and disability, we need also better and more reliable information on risk profiles by country, class, sex, hospitalisation rates and easily understandable measures of disability and misery; economic dimensions; life course measures showing predictive values of risk, disease and interventions; and finally, measures of the multiple burden of risks and disease in developing countries and among the disadvantaged worldwide.

- *Addressing the burden of disease through synergies among existing programmes*

Health services should not divert scarce resources away from programmes with proven effectiveness aimed at reducing the level of infectious diseases, under-nutrition and maternal mortality. Increased spending on health will

reduce poverty and increase family and national productivity. Synergies between existing programmes and chronic disease control should be maximized. For example, TB clinics and Mother and Child Health/Family Planning clinics, would offer the chance to promote tobacco cessation; Hepatitis B vaccine services would be expanded as an effective means of preventing liver cancer; and balanced nutrition advice and support to mothers and newborns (including breastfeeding) would play a vital role in preventing heart disease in adulthood. At the time when resources are scarce, integrated plans and actions will be more effective than vertical, fragmented actions.

- *Act on the determinants of noncommunicable diseases through global and national multi-sectoral policies and interventions*

Many national and local policies and interventions to effectively reduce risk factors for chronic diseases are inexpensive and, in some cases, can raise revenue for governments. For example, a ban on tobacco advertising and sponsorship requires political will, not funding. In many countries, such as Iran, Poland, Thailand and Australia, a proportion of the tobacco excise tax is used to fund health promotion and/or primary health care programmes. This approach should be expanded since poor people and the young are more sensitive to increased tobacco excise tax. Effective, gender-sensitive health promotion, including mass media and school education programmes, play a crucial role.

Most chronic diseases have complex causes that demand multi-sectoral responses over decades. There is a need to demonstrate, including from a gender perspective, how policies and interventions can influence trends in determinants, and ultimately, their associated health outcomes.

The limits to national action have been well documented with respect to both tobacco control and the promotion of breastfeeding. Models for implementing complementary global actions that include the proposed Framework Convention on Tobacco Control and the Code on Marketing of Breast Milk Substitutes are needed. Such complementary global action benefits mainly developing countries with weak legislative and health infrastructure. Global advocacy by Nongovernmental organizations (NGOs) to highlight the need for best national practices in one country to be the global norm is another essential component for success.

- *Transform health services to respond to the needs of women and men with noncommunicable diseases and reinforce the importance of Primary Health Care*

Most health services, in particular primary health care services, give priority to acute care. These services are not prepared to address the current and rising burden of chronic diseases and disability. Long term care is needed to treat people suffering from chronic diseases such as AIDS, depression, hypertension, stroke, or from the long term consequences of violence. The attitudes of health professionals, the availability of diagnostic and treatment technology, and the quality of referral systems need to be simultaneously addressed. Currently, a programme on chronic care at WHO is assessing system level strategies to improve the delivery of care for chronic illnesses. Also, a global assessment of institutional and human capacity for non-communicable diseases control in developing countries is being undertaken by WHO.

Further, significant changes should be made in the organization of health services to develop a stronger approach to providing integrated care within a population-based system. The

importance of nurses as primary providers worldwide should be highlighted in this respect. There is a need to shift their focus from treating acute disease to managing long term families with chronic disease in the community. Changing the current health systems may lead to improved equality between men and women. Explicit attention must be given to reducing barriers, in particular for women, to full use of health services (in terms of cost, time, male/female service provider, etc.). In addition, improved health systems may alleviate some of the care giving responsibilities of women.

The package of preventive interventions and cost-effective treatments to be provided will be determined by national expenditure on health. Public debate on health expenditures, involving women and men, will be essential if they are to be equitably distributed. It is important to develop gender-sensitive health education messages. Special and urgent attention needs to be given to improving methods of adherence to treatment for TB and HIV/AIDS as well as hypertension, diabetes and chronic lung disease. Community-based trials of effectiveness, involving women and men, are needed to demonstrate impact and adaptability under a range of resource-constrained conditions. For example, trials are needed for breast self-screening as a method to detect breast cancer in an early stage in order to improve survival rates.

- *Expand partnerships with purpose*

In most countries, NGOs are very active in the area of noncommunicable diseases and mental health. Their challenge is to be equally active in advocating for effective comprehensive and gender-sensitive prevention and promotion

programmes that reach men and women in all countries. The Women's Health Project (Johannesburg, South Africa), for example, works in the fields of health systems, gender equality, sexual and reproductive rights and health, and also advocates to prevent women's uptake of tobacco. The Voluntary Health Association of India recently published, in collaboration with the World Health Organization, a National Profile on Women, Health and Development. Further, specialised agencies such as UNICEF, UNFPA, UNESCO, FAO, UNIFEM, CEDAW, World Bank, WHO, and IMF have key roles to play in reducing the burden of chronic diseases for women and men. Innovative partnerships with the private sector are needed to make generic, gender-sensitive, drugs more readily affordable in developing countries; and to build a strong coalition aimed at ensuring that markets can work for better health.

The recommendations resulting from the UN Millennium Women's Summit, which took place in New York on 5 September 2000, underline, that the UN agencies should envisage women not only as recipients of protection and assistance, but also as agents of change and actors in identification of solutions for the problems affecting them³⁸. To this end, the UN should focus on developing enabling conditions for women to combat poverty. Women should have equal access to education; equal access to credit and information. The UN Millennium Women's Summit called on Governments to ensure the realization of the right to health, including the provision of affordable health services to women and men, as a matter of top priority. Good health is fundamental for development.

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The mission of Noncommunicable Diseases and Mental Health (NMH) cluster is to provide global leadership to promote health across the life course; to prevent and control noncommunicable diseases, including mental health disorders, as well as injuries and violence; to assist Member States in reducing the toll of morbidity, disability and premature mortality due to those disorders; and to enhance the quality of life of people with disabilities.



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