日本赤十字広島看護大学特別講演会

Chronic Diseases & Depression: Lessons from the World Health Organization About Worldwide Burdens
（慢性疾患と鬱の世界的現状）

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Chronic diseases are the largest cause of death in the world, led by cardiovascular disease (ischemic heart disease & stroke), and followed by cancer, chronic lung diseases & diabetes mellitus. These diseases share key risk factors: tobacco use, unhealthful diets, lack of physical activity, and alcohol use. The global prevalence of these chronic diseases is increasing, with the majority in developing countries (Yach, Hawkes, Gould, Hofman, 2004). But the global response is inadequate and most people are not aware of these issues.

Depression is one of the top three disabling health conditions in the world and by 2030 depression will likely be the top disabling condition. Chronic disease and depression are not headline grabbing yet but prevention and control are critical for world health.

In this presentation, I will discuss the World Health Organization (WHO)'s 2004 Update on the Global Burden of Disease and the WHO definition of disability. I will include specifics about chronic diseases and depression in poor and middle income countries showing how serious the problem is and why lack of action is dangerous to world wide health. Included also will be findings showing the link between depressive disorders and chronic disease. I will address the global forces influencing the increasing prevalence of chronic disease and depression and the social determinants of health. I will conclude with proposed solutions and opportunities for action by nurses. I have made liberal use of the resources on the WHO website and unless otherwise indicated, the content in this paper was available on the WHO website.

The Meaning of Disability

In the Global Burden of Disease (GBD) study, disability refers to loss of health. Health is defined as functioning capacity in domains such as mobility, cognition, hearing and vision. One disease or injury may have multiple disabling effects of varying severity & cause various health problems. To measure disability, the disability-adjusted life year (DALY) is used. DALY indicates the burden of disease and one DALY equals one lost year of `healthy` life. The DALY expands the concept of potential years of life lost due to premature death to include years of healthy life lost due to being in a condition of poor health or disability. Globally, 60% of DALYs are due to premature death and 40% are due to non-fatal health outcomes.

The GBD 2004 Update: 10 Facts on the Global Burden of Disease

Collecting and comparing health data from around

the world is a way to describe health problems, identify trends and help set priorities for health policy decision makers. The 2004 GBD described the state of global health by measuring the burden of disease, meaning the loss of health from all causes of illness and deaths worldwide. The GBD provides information on more than 130 injuries and diseases around the world. To summarize the 2004 findings of the GBD, the WHO website listed ten facts and these are listed here with brief descriptions. The next GBD will be available in 2010.

Around 10 million children under the age of five die each year

Almost all of these children could live with access to simple and affordable interventions.

Cardiovascular diseases are the leading causes of death in the world

Cardiovascular diseases are diseases of the heart and blood vessels that can cause heart attacks and stroke. At least 80% of premature deaths from heart disease and strokes could be prevented through maintaining a healthy diet, regular physical activity and avoiding the use of tobacco. The graph titled *Distribution of deaths by leading cause groups, males and females, world, 2004* (Table 1) illustrates that cardiovascular diseases are the leading causes of death in the world.

HIV/AIDS is the leading cause of adult death in Africa

Despite substantial progress in the prevention and treatment of HIV/AIDS, mortality remains high in Africa. Many people lack access to health services which limits survival. Obstacles for better care include weak health care systems and shortages of human resources, such as nurses.

Population aging is contributing to the rise in cancer and heart disease

The increasing proportion of older people in the global population is contributing to the increase of age-associated chronic diseases, particularly in developing countries. Care-givers of people with chronic disease, health systems and societies need to be ready to cope with the growing needs of the elderly in every part of the world (Hirschfeld, 2009). In China, as a result of the successful one child policy and improved longevity, the population is aging at one of the fastest rates ever recorded. At the same time, there is an increase in prevalence of chronic disease & disability. Increases in the number of dependent people have the potential to put pressure on health care and other support systems, especially in poor countries. (Hirschfeld, 2009). Long-term care will be needed.

Chronic diseases are diseases of long duration and generally slow progression. Chronic diseases, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are by far the leading cause of mortality in the world, representing 60% of all deaths. Out of the 35 million people who died from chronic disease in 2005, half were under 70 and half were women. The graph titled *Per cent distribution of age at death by region, 2004* (Table 2) illustrates age at death in the different regions of the world.

Distribution of deaths by leading cause groups, males and females, world, 2004

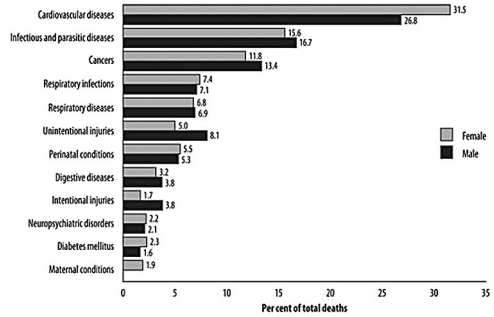


Table 1

Per cent distribution of age at death by region, 2004

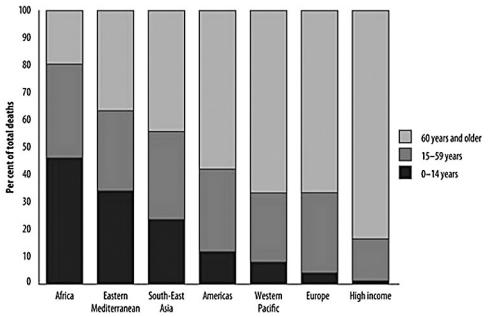


Table 2

Lung cancer is the most common cause of death from cancer in the world

Use of tobacco is the single major preventable cause of cancer in the world. In developing countries, smoking is responsible for more than 80% of all lung cancers.

Complications of pregnancy account for almost 15 % of deaths in women of reproductive age worldwide

More than half a million women die from preventable complications during pregnancy or childbirth. WHO works to improve maternal health by assisting countries to improve care before, during and after childbirth.

Mental disorders such as depression are among the 20 leading causes of disability worldwide

Depression affects around 120 million people worldwide and this number is projected to increase. Fewer than 25% of those affected have access to adequate treatment and health care. In all world regions, neuropsychiatric conditions are the most important causes of disability, accounting for about one-third of years lost to disability among adults 15 years of age and older. The burden of depression is 50% higher for women and this is illustrated in the graph *Leading causes of disease burden for women aged 15-44 years, high-income countries, and low- and middle-income countries, 2004* (Table 3). The male burden for alcohol and substance use disorders is nearly seven times higher than for females and accounts for almost one-third of the male neuropsychiatric burden.

Leading causes of disease burden for women aged 15–44 years, high-income countries, and low- and middle-income countries, 2004

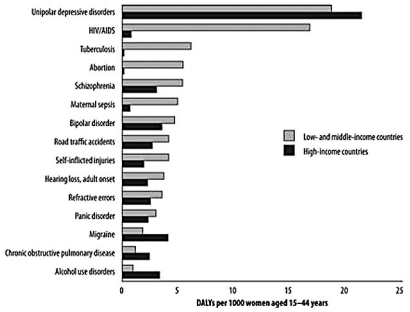


Table 3

Hearing loss, vision problems and mental disorders are the most common causes of disability

These disorders can affect people's lives and livelihoods, but many, such as hearing loss and cataracts, are easily treatable. Statistics vary between higher-income and lower-income countries but high overall rates of these disorders underline the need for wider access to interventions that help people live productive lives

Road traffic injuries are projected to rise from the ninth leading cause of death globally in 2004, to the fifth in 2030

Every day, more than 3500 people die from road traffic crashes and millions are injured or disabled for life. WHO increases awareness of this preventable cause of death by promoting road safety practices such as wearing helmets and seat-belts, and not speeding or driving under the influence of alcohol.

Under-nutrition is the underlying cause of death for at least 30% of all children under age five

Almost 20 million children worldwide are severely malnourished. Inadequate breastfeeding, inappropriate food and a lack of access to highly nutritious foods contribute to this problem. In addition, common childhood diseases affect a child’s ability to eat or absorb the necessary nutrients from food.

Correcting Myths of Chronic Diseases

Myths and false beliefs about chronic diseases impair the world effort to prevent and treat these diseases. These myths will be identified in this section and countered with the facts of the actual world situation. A prominent myth is that chronic diseases are diseases of affluence and Western diseases. The fact is that 80% of chronic diseases occur in low and middle income countries. A second myth is that chronic diseases are diseases of old people. The fact is that in low and middle income countries, people develop chronic diseases at younger ages; they suffer longer and die sooner. A dangerous myth is that chronic diseases arise from freely

chosen risks of individuals to use tobacco, alcohol, sweet foods and prepackaged foods. The fact is that promotional marketing, especially to children and teen-agers, encourages consumption and addiction and results in widely distributed risk factors. The fourth myth is damaging to successful treatment of chronic diseases; that myth is the belief that health care systems can manage chronic diseases. The fact is that chronic disease management is more complex than management of communicable diseases and prevention requires a strong commitment beyond the health sector. In lower-income countries the health systems are double burdened with communicable diseases and chronic diseases. Correcting these myths is essential to successful prevention and treatment of chronic diseases around the world.

Data about chronic diseases in the world from the 2004 GBD are shown in the following graphs. In the year, 2000 there were 5.3 million deaths in the world. The graph *Leading causes of mortality and burden of disease: world, 2004* (Table 4) shows the causes of mortality and disease burden. Differences between women and men is shown in the graph *Distribution of deaths in the world by sex, 2004* (Table 5). *The projections for selected causes of death in 2030* are compared to causes in 2004 as shown in the graph *Global projections for selected causes, 2004-2030* (Table 6). Projections about the burden of disease in 2030 are compared to 2004 in the graph *Ten leading causes of burden of disease: world, 2004-2030* (Table 7). These data and projections show how serious the worldwide problem of chronic disease is.

Chronic diseases are a silent global epidemic, receiving much less attention than communicable diseases. Other terms for the epidemic of chronic diseases are the neglected epidemic and the looming lifestyle epidemic of the 21st century. Countries such as India and South Africa experience the

Leading Causes of Mortality and Burden of Disease world, 2004

Mortality		%	DALYs		%
1.	Ischaemic heart disease	12.2	1.	Lower respiratory infections	6.2
2.	Cerebrovascular disease	9.7	2.	Diarrhoeal diseases	4.8
3.	Lower respiratory infections	7.1	3.	Depression	4.3
4.	COPD	5.1	4.	Ischaemic heart disease	4.1
5.	Diarrhoeal diseases	3.7	5.	HIV/AIDS	3.8
6.	HIV/AIDS	3.5	6.	Cerebrovascular disease	3.1
7.	Tuberculosis	2.5	7.	Prematurity, low birth weight	2.9
8.	Trachea, bronchus, lung cancers	2.3	8.	Birth asphyxia, birth trauma	2.7
9.	Road traffic accidents	2.2	9.	Road traffic accidents	2.7
10.	Prematurity, low birth weight	2.0	10.	Neonatal infections and other	2.7

Table 4

Distribution of deaths in the world by sex, 2004

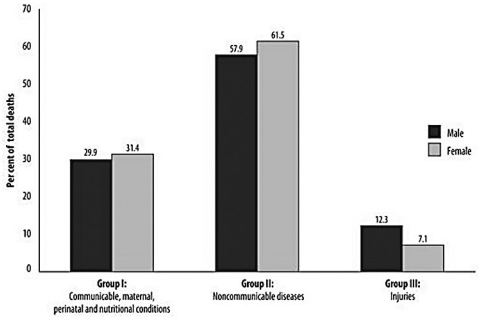


Table 5

Global projections for selected causes, 2004 to 2030

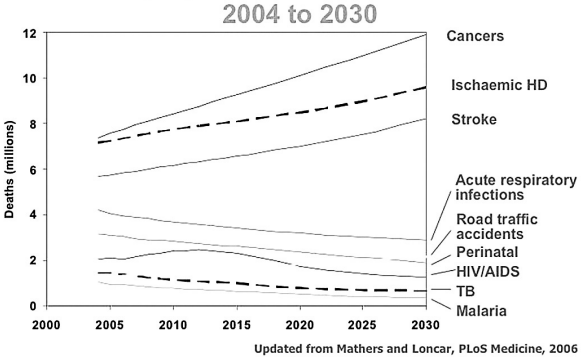


Table 6

Ten leading causes of burden of disease, world, 2004 and 2030

2004 Disease or injury	As % of total DALYs	Rank	Rank	As % of total DALYs	2030 Disease or injury
Lower respiratory infections	6.2	1	1	6.2	Unipolar depressive disorders
Diarrhoeal diseases	4.8	2	2	5.5	Ischaemic heart disease
Unipolar depressive disorders	4.3	3	3	4.9	Road traffic accidents
Ischaemic heart disease	4.1	4	4	4.3	Cerebrovascular disease
HIV/AIDS	3.8	5	5	3.8	COPD
Cerebrovascular disease	3.1	6	6	3.2	Lower respiratory infections
Prematurity and low birth weight	2.9	7	7	2.9	Hearing loss, adult onset
Birth asphyxia and birth trauma	2.7	8	8	2.7	Refractive errors
Road traffic accidents	2.7	9	9	2.5	HIV/AIDS
Neonatal infections and other[a]	2.7	10	10	2.3	Diabetes mellitus
COPD	2.0	13	11	1.9	Neonatal infections and other[a]
Refractive errors	1.8	14	12	1.9	Prematurity and low birth weight
Hearing loss, adult onset	1.8	15	15	1.9	Birth asphyxia and birth trauma
Diabetes mellitus	1.3	19	18	1.6	Diarrhoeal diseases

Table 7

double burden of disease (communicable and non-communicable disease). Chronic diseases present a major public health threat but there is no global coordinated action. Local successes are reported but national and global responses are slow (Magnusson, 2009, Meetoo, 2008).

Vital Link Between Chronic Disease & Depression

Chronic diseases and depression are linked and have been found to be bidirectional in their impact. Depression complicates treatment of chronic disease. Depressed persons are more likely to develop coronary heart disease, have a myocardial infarction or have a stroke. Depression is common after a stroke or heart attack and decreases adherence to treatment. Depression is twice as prevalent in people with diabetes. Depressive and anxiety disorders are associated with wide range of chronic physical conditions (Chapman, Perry, Strine, 2005). Timely diagnosis and treatment of depression could impact the course of chronic diseases. Using the World Mental Health surveys and results from seventeen countries, Scott et al. (2007) showed that depression and anxiety consistently are associated with chronic physical conditions. Depression, untreated, is also a chronic disease and adds to the worldwide burden of chronic disease. For current and future health care providers and policy makers, the question is 'What should we do about the worldwide burdens of chronic disease and depression?'

Social Determinants of Health

WHO addressed the above question with a report on the social determinants of health which asked "Why treat people…without changing what makes them sick?"

According to WHO, the social determinants of health are the life and social conditions in which people are born, grow, live, work and age, including the health system. These circumstances are shaped by the distribution of money, power and other resources at global, national and local levels and these are influenced by policy choices. The social determinants of health are commonly responsible for health inequities. Health inequities are the unfair and avoidable differences in health status seen both within and between countries around the world. Responding to increasing concern about these persistent and widening inequities, WHO established the Commission on Social Determinants of Health (CSDH) in 2005 to provide advice on how to reduce them. The Commission's final report was launched in August 2008.

Global Forces

Social determinants of health are influenced by powerful global forces. These include globalization and urbanization, global diffusion of marketing and resulting exposure to tobacco, unhealthy diets, lack of physical activity and alcohol use. At the same time, the world is undergoing a nutrition transition with diets richer in fats, sugar and salt replacing more traditional diets. Another important transition is the epidemiological transition which is a dramatic shift of deaths from younger to older ages and a shift from communicable, maternal & perinatal causes of death to noncommunicable diseases as causes of death. This shift is shown in graph titled *Per cent distribution of age at death by region, 2004* (Table 2). All of these global forces are influenced by increasingly obesogenic environments with sedentary lifestyles (Magnusson, 2009). The key health risk factors advanced by these global forces are tobacco use, unhealthful diets, lack of physical activity, and alcohol use.

International Health to Global Health

International health has been a focus of the education of nurses and physicians. International health has addressed the GBD through monetary or technical aid or providing health care by organizations, groups and individuals. Now the emphasis has shifted to global health. The term global health integrates the GBD approach with the social, political, economic and environmental contexts (Falk-Rafael, 2006). In other words, global health expands international health by including consideration of the social determinants of health and the global forces influencing health.

Health Equity through Action on the Social Determinants of Health

Through a publication titled *Social Determinants*

World Health Organization

Social Determinants of Health

Table 8

of Health: Why treat people…without changing what makes them sick? (Table 8) WHO urges action on the social determinants of health. Further, WHO urges an understanding of social justice as a matter of life and death. Social justice affects the way people live, their consequent chance of illness, and their risk of premature death. Life expectancy and good health continue to increase in parts of the world and alarmingly, they fail to improve in others.

A prominent nurse in world health, Hirschfeld (2009) stated that nurses have a moral and political responsibility to raise their voices and be listened to in relation to the social determinants of health. Broad political implications of trade, globalization, and the social determinants of health must be addressed if effective preventive measures are to stem the uncontrolled growth in chronic diseases and long term care needs. At a service level, health promotion and primary and secondary prevention are the first steps. These are typically nursing approaches. We need to think globally now and become accountable to act locally, according to each country's culture and situation.

Three principles of action

Three principles have been identified for action on the social determinants of health. These are 1) Improve daily living conditions which are the circumstances in which people are born, grow, live, work, and age, and 2) Tackle the inequitable distribution of power, money, and resources which are the structural drivers of those conditions of daily life globally, nationally, and locally and 3) Measure and understand the problem and assess the impact of action. These actions include both developing a workforce that is trained in the social determinants of health, and raising public awareness about the social determinants of health.

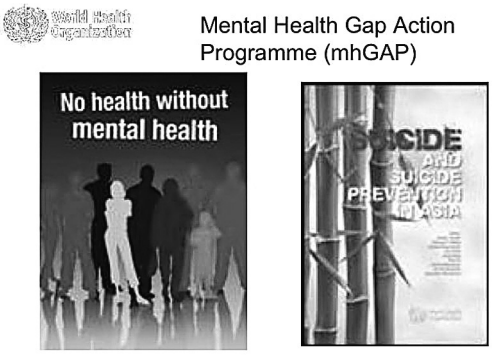
Actions should include the following:

- Improve the well-being of girls and women and the circumstances in which their children are born,
- Put major emphasis on early child development and education for girls and boys,
- Improve living and working conditions and create social protection policy supportive of all, and
- Create conditions for a flourishing older life.

Policies necessary to achieve these goals will involve civil society, governments, and global institutions. In order to address health inequities, and inequitable conditions of daily living, it is necessary to address inequities such as those between men and women, in the way society is organized. This will require a strong public sector that is committed, capable, and adequately financed. Creating the organizational space and capacity to act effectively on health inequity requires investment in training of policy-makers and health practitioners and public understanding of social determinants of health. A stronger focus on social determinants in public health research also is necessary.

WHO Urges More Investments and Services for Mental Health

Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and is able to make a contribution to her or his community. Suicide is a global public health problem, particularly in Asia where high suicide rates in a few countries with large populations account for a majority of the world's suicides. In 2007, Japan reported over 30,000 suicides per year among all ages. In Japan, female suicides rank 6th in the world and males rank 11th. Efforts to address the problem have been unsystematic but there is increasing recognition by governments, community members, and professional groups of the need to do more. The monograph by the WHO Mental Health Gap Action Programme (mhGAP) is titled *No health without mental health* (Table 9) and is the product of



Suicide and Suicide Prevention in Asia

Table 9

Suicide Prevention International's (SPI) Strategies to Prevent Suicide (STOPS) project, currently focused on Asia. Another monograph is *Suicide and suicide prevention in Asia* (Table 9). Each year worldwide approximately one million individuals die of suicide, 10-20 million attempt suicide, and 50-120 million are profoundly affected by the suicide or attempted suicide of a close relative or associate. Asia accounts for 60 percent of the world's suicides; at least 60 million people are affected by suicide or attempted suicide in Asia each year.

Toward Solutions for Long-term Change

Solutions for long-term change are possible but chronic diseases must be placed higher on the agenda. Advocacy is needed. The public health significance of mental disorders, especially unipolar depression, must be recognized. The risk factors for chronic disease are identified. Now there must be a focus on controlling the risk factors. Realignment of health systems for prevention and management of chronic disease is necessary. Health systems must emphasize teaching self-management to patients and recognizing the patient as the expert on his/her health (Yach, Hawkes, Gould, Hofman, 2004, Scott, et al., 2007).

Nurses' Opportunities for Action

Nursing is the profession most suited for the emphasis on teaching self-management and recognizing the patient as the expert on his/her health. Nurses have opportunities for action in education, clinical practice and policy. Education should include content on chronic diseases, including depression, and the burden of chronic disease worldwide, social determinants of health and the multiple cultural realities affecting health. In clinical practice, nurses can collaborate in chronic disease management and engage in global health dialogue to share the nursing perspective. Nurses can influence policy by three actions. First, identify yourself as a global nurse citizen and join like-minded organizations. Second, express caring for humanity and the environment through political activism at local, national and international levels. Third, exercise political power to bring about change (Meetoo, 2008)

Summary and Conclusion

Chronic diseases are the largest cause of death in the world, led by cardiovascular disease (ischemic heart disease & stroke), and followed by cancer, chronic lung diseases and diabetes mellitus. These diseases share key risk factors: tobacco use, unhealthful diets, lack of physical activity, and alcohol use. Because of exposure to these risk factors, the global prevalence of these chronic diseases is increasing, with the majority in developing countries (Yach, Hawkes, Gould, Hofman, 2004). The global response is inadequate.

Depression is one of the top 3 disabling health conditions in the world and by 2030 will likely be the top disabling health condition. These topics, chronic disease and depression, are not headline grabbing but prevention and control are most important for world health.

Nurses have an important role to play locally, nationally and globally.

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