

chronic disease news

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Editorial



Dear readers,

Welcome to the first issue of Chronic Disease News, a newsletter of the Centre for Control of Chronic Diseases

in Bangladesh – the consortium partnership between BRAC, ICDDR,B, Institute of Development Studies and Johns Hopkins Bloomberg School of Public Health.

This consortium partnership will work together to highlight an emerging health issue for the poor, particularly important in light of the ten-fold increase in the elderly (60+ years) population in Bangladesh during this century. By 2100, those over 60 years of age will constitute more than 26% of the population of Bangladesh. The consortium is funded by a unique combination of public (National Heart, Lung and Blood Institute from the USA) and private sector (UnitedHealth Group), who like us recognize the need to put chronic disease prevention and management on the health agenda of developing countries.

The project will look at how all people, especially the poor, can prevent and manage major risk factors for chronic diseases and the diseases themselves. We aim to strengthen the evidence for policy formulation and to develop appropriate programmes for the communities--both urban and rural.

Through this newsletter we will keep you informed about the project activities, its research findings, and the chronic disease situation in Bangladesh.

This first issue highlights on the emerging situation of two common chronic diseases in Bangladesh, and a study on the hidden burden of chronic disease risk factors in non-obese young people in rural Bangladesh. In addition to introducing the Centre of Excellence, the issue also runs an interview with an international expert on chronic disease programmes.

Hope you will enjoy reading this newsletter.

Alejandro Cravioto
Executive Director, ICDDR,B

Chronic Disease: an emerging priority in Bangladesh

Chronic diseases account for the largest share of premature deaths and disabilities in the world. Despite the lack of attention to chronic diseases, Bangladesh is not an exception. In Bangladesh, the most common chronic conditions are heart disease and diabetes.

Shilpi*, a jovial 25-year old newlywed, is a teacher at an English Medium School in Dhaka. She was recently diagnosed with diabetes. She was frustrated because she thought diabetes was an “elderly disease.” She started avoiding social gatherings out of fear of being judged by her relatives and friends who might treat her differently when they learn about her condition. She has a hard time concentrating at work since her situation was leaked and became the subject of gossip and speculation.

Anowar*, a 34-year old government school teacher, lives in a rural area of Bangladesh. He was diagnosed with hypertension four years ago. One night, he suddenly felt chest pain and was rushed to Bangabandhu Sheikh Mujib Medical University where he was diagnosed with ischemic heart disease, another chronic condition.

These two cases are drawn from vastly different settings – urban and affluent versus the low income rural area. Both involve chronic diseases that can strike anyone in Bangladesh but can be prevented through changes in life style.

Heart disease: Ischemic heart disease is the leading cause of death in Bangladesh and

is responsible for 12% of all mortality. Cerebrovascular disease (stroke) is the sixth leading cause of death in Bangladesh and is responsible for 6% of total deaths. All cardiovascular diseases accounted for more than 250,000 deaths in 2002; a quarter of total mortality. Risk factors for ischemic heart disease and cerebrovascular disease include:

- high blood pressure, smoking, high cholesterol, physical inactivity, low fruit and vegetable intake, and urban air pollution



Diabetes: The prevalence of diabetes in Bangladesh is 6.9%. Urban areas have a significantly higher prevalence of diabetes than rural areas, and the risk of diabetes increases with age. In both urban and rural areas and across all age groups, Bangladeshi women have a higher prevalence of diabetes than men. Risk factors for diabetes include:

impaired glucose tolerance, obesity, high waist-to-hip ratio, high waist circumference (abdominal obesity), physical inactivity and low fruit and vegetable intake.

High cholesterol and high blood pressure often co-exist with diabetes which is among the leading risk factors for high mortality in developing countries including Bangladesh.

The burden of chronic diseases could be reduced through preventive measures that eliminate at least 80% of premature heart disease, stroke and diabetes.

Forty percent of cancers could be prevented through maintaining a healthy diet, partaking in regular physical exercise and avoiding tobacco products

Tobacco use is one of the most devastating risk factors for chronic diseases in Bangladesh. The prevalence of tobacco usage (smokers and non-smokers) is 55% among people over the age of 30. Fifty-eight percent of Bangladeshi men are smokers compared to only 4% of women. On the other hand, non-smoking tobacco usage (e.g., chewing) is more common to women: 40% of women (particularly older women) chew tobacco. Nearly one-tenth of the population suffers from the eight conditions for which tobacco is a contributing factor: ischemic heart disease, lung cancer, stroke, oral cancer, cancer of larynx, chronic obstructive pulmonary disease, pulmonary tuberculosis, and Buerger's disease. Tobacco-related diseases account for 16% of deaths in Bangladesh among people aged 30 years and older.

*not real name

Dr Masuma Akter Khanam
Research Investigator

The Centre for Control of Chronic Diseases in Bangladesh

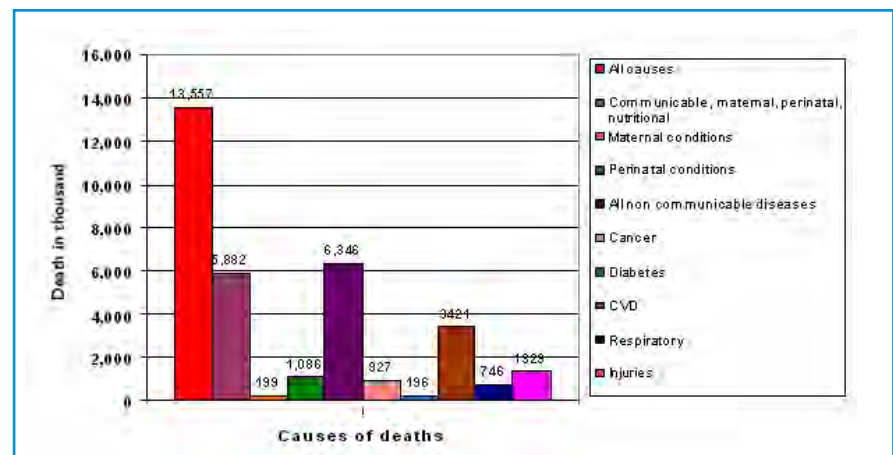
According to the World Health Organization (WHO) "Chronic diseases are diseases of long duration and generally slow progression. Chronic diseases, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are by far the leading cause of mortality in the world, representing 60% of all deaths. Out of 35 million people, who died from chronic disease in 2005, half were under 70 and half were women."

Recent studies indicate that Bangladesh is also experiencing a health transition that involves a relative shift in the burden of diseases from communicable to non-communicable diseases. In 2002, more than one million people died in Bangladesh and chronic diseases are estimated to be responsible for almost half of all deaths. The prevalence of chronic diseases such as cardiovascular diseases, diabetes, and cancer increased significantly. This increase is observed not only in the urban areas but also in the rural population which includes high levels of non-insulin dependent diabetes

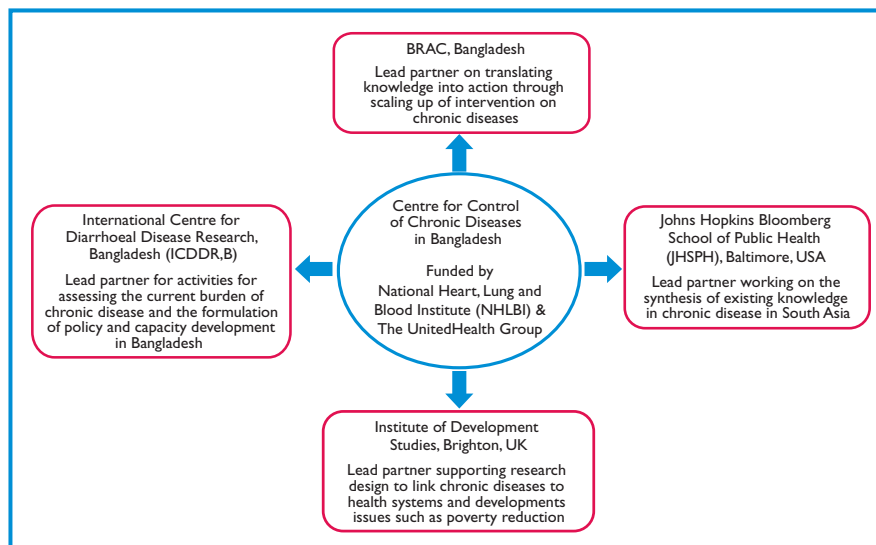
mellitus, impaired glucose tolerance, hypertension. More recently diabetes has also started to be documented in the tribal population in Bangladesh.

The Centre for Control of Chronic Diseases started its journey in Bangladesh in the context of this rising trend. Its objectives are to ensure better understanding of risk factors, preventive and curative measures for chronic diseases and to enhance awareness across the levels of care. The goals of the Centre for Control of Chronic Diseases in Bangladesh are:

- To assess the current burden of chronic disease in Bangladesh
- To synthesize existing knowledge of gaps in chronic disease in South Asia
- To develop policy and capacity for Bangladesh for pre-intervention support
- To undertake intervention and chronic disease scaling up: translating knowledge into action
- To provide technical and communications support



The Centre for Control of Chronic Diseases in Bangladesh is a consortium partnership as mentioned before, the programme is funded by the National Heart, Lung and Blood Institute (NHLBI) and UnitedHealth Group. The NHLBI provides global leadership for a research, training, and education program to promote the prevention and treatment of heart, lung, and blood diseases and enhance the health of all individuals so that they can live longer and more fulfilling lives. The UnitedHealth Group is one of the world's largest health wellbeing companies that has started a Chronic Disease Initiative to create, fund, and partner with centres in low and middle-income countries to counter the pandemic of chronic disease sweeping through those countries.



The diagram shows the function of each partner

for research and training to enhance their capacity to conduct population-based or clinical research to monitor, prevent, or control chronic diseases, with a focus on cardiovascular and pulmonary diseases.

health care user and provider chronic disease management strategies that fall outside of the formal sector. The Centre will also seek to use the strong links that exist with the Ministry of Health and Family Welfare and non-state actors to inform and disseminate findings with support from IDS. As an international leader in provision of information services for development with links to governments, international organizations, research institutes and advocacy groups, IDS also supports the programme's communications activities.

Allied institutions in Bangladesh:

Bangladesh Institute of Research & Rehabilitation in Diabetes, Endocrine & Metabolic Disorders (BIRDEM)

National Heart Foundation

Dhaka Ahsania Mission Cancer Hospital

National Institute of Cancer Research & Hospital

National Institute of Diseases of Chest & Hospital

National Institute of Cardiovascular Disease (NICVD)



To help combat chronic diseases in developing countries, the UnitedHealth Chronic Disease Initiative and the NHLBI support a global network of collaborating Centers of Excellence. Each center includes a research institution in a developing country paired with at least one partner academic institution in a developed country. These Centers of Excellence are developing infrastructures

The programme secretariat for Bangladesh is based at ICDDR,B, Dhaka. ICDDR,B in collaboration with BRAC and JHSPH is conducting an initial assessment of current chronic disease programmes in Bangladesh. National policies that deal with the prevention and treatment of chronic diseases are being reviewed, along with an exploration of some pre-existing

International perspectives on chronic disease: An exclusive interview with Professor Gerard Anderson



Professor Gerard F Anderson (GA) is a Professor of Health Policy and Management, and Professor of International Health at Johns Hopkins University Bloomberg School of Public Health. He is also a Professor of Medicine at the Johns Hopkins University Bloomberg School of Medicine. He is conducting research on chronic conditions, comparative insurance systems in developing countries, medical education, health care payment reform, and technology diffusion and has directed reviews of health systems for the World Bank and USAID in multiple countries. In addition to authoring two books on health care payment policy he has published more than 200 peer reviewed articles. The interview below was taken during his visit to Bangladesh in January 2009, as a member of the Centre for Control of Chronic Diseases, by Nazratun Nayeem Monalisa (NNM).

NNM: Could you identify some important milestones in combating chronic disease?

GA: Although chronic disease is not a new problem, it is a problem that has not received enough attention from governments, international aid agencies and other policymakers. There were three important milestones. The first was to create awareness

in industrialized countries concerning the magnitude of the problem and the fact that the current health care system is not oriented towards chronic disease. The second was to raise the same awareness among international aid agencies. The final and most important milestone is to raise awareness at country level.

NNM: Given your participation in a number of successful programmes around the globe, can you please explain some of the factors that worked toward making these programmes successful as well as the major challenges to control chronic diseases at different settings, particularly in the developing countries?

GA: Probably the most important aspect of a successful programme is to involve the government early in the process and to keep them involved. I have seen many examples where a successful pilot did not continue once the initial funding ended because the government was not involved from the beginning and did not stay involved. The two biggest challenges are raising awareness of the problem and developing concrete solutions to the challenges. Developing countries face the double burden of having both communicable diseases and non-communicable chronic conditions.

NNM: What measures do you suggest for the success of chronic disease programmes in Bangladesh?

GA: Bangladesh is just beginning the journey. I have great expectations for Bangladesh but it is too early to make an assessment.

The first step is to try to prevent chronic disease but most of the time you will not be completely successful and you will need to treat the people with the diseases. The challenge is to do both activities at low cost and have significant clinical improvements.

NNM: Who are the key stakeholders in reducing the chronic disease burden and what types of advances do you anticipate in the area of research concerning chronic disease management in South-Asian countries or other low and middle-income countries?

GA: In developing countries the key stakeholders are the international aid agencies, which provide much of the funding and the government, which provides most of the delivery sites. The real stakeholder however is the people of Bangladesh, particularly the people in Bangladesh with chronic conditions. We need better information on burden of disease measurements to convince the policymakers of the magnitude of the problem and we urgently need demonstrations that can tackle primary, secondary and tertiary conditions.

NNM: How do you suggest healthcare, foodservice and consumer education professionals communicate the preventive and curative measures to the community people?

GA: Most of the successful campaigns are amazingly simple. For example Mexico realized that people do not understand the Body Mass Index (BMI) so they substituted the waist measurement. While not as good a measure of obesity it is something easily understood and measured. Bangladesh has the opportunity to make great strides in chronic care. I wish you all the best in this important activity. I have enjoyed my visit to Bangladesh and hope to return soon.

Hidden burden of chronic disease risk factors in non-obese young people in rural Bangladesh: an urgent public health priority

Chronic diseases have traditionally been considered diseases of affluence, but now the problem is becoming as big if not bigger in developing countries. It is predicted that the global epidemic of non-communicable disease (NCD) will hit developing countries harder than developed countries in the coming decades. In developing countries most people with NCDs remain undiagnosed until in an advanced stage or suddenly diagnosed in an individual seeking treatment for another acute health problem, therefore the hidden burden of such chronic diseases is much bigger than currently understood.

As a part of the new chronic disease programme at ICDDR,B, a recent study was conducted in rural Matlab to assess the prevalence of diabetes, prediabetic conditions (impaired glucose tolerance), hypertension, bad lipid profiles and metabolic syndrome among 27 to 50 years old adults.

A total of 517 individuals were selected from Matlab Health and Demographic Surveillance System (HDSS) database as study population, of which 44% were male. The participants fasted overnight prior to attending a clinic, where the research team collected blood for measuring fasting plasma glucose and lipid profile followed by an oral glucose tolerance test two hours after ingestion of 75g glucose dissolved in water for a second glucose measurement.

The data show that although

obesity (Body Mass Index* (BMI) ≥ 29) was very low, 10.4% of the participants were overweight (BMI ≥ 25). However, 13.5% of the women were overweight compared to only 6.6% of men. Overall, 14% had abdominal obesity (high waist circumference) but the prevalence was 20% among women. Diabetes was prevalent among 3% of the participants with higher prevalence among women (4.2%) than men (1.3%).

The study also found impaired glucose tolerance (a prediabetic condition) in 9% of this population, again with higher prevalence in women (10.4%) than men (6.6%). Overall 6% had high blood pressure (7.3% females, 5.3% males). Metabolic syndrome is defined as the concurrent presence of high waist circumference, and any two of high plasma triglyceride, low HDL cholesterol, high blood pressure, abnormal glucose. People with metabolic syndrome carry three times the risk of heart attack or stroke and are at twice the risk of dying from such events. Overall 8.5% of the participants had metabolic syndrome: nearly 10% women and 4% men.

In developed countries the epidemic of obesity is a major driving force behind the huge burden of NCDs, and now developing countries are experiencing at least a similar burden despite lower prevalence of obesity. Asian population is known to have higher body fat for given BMI compared to

that of western population. Recent evidence suggests that the distribution of fat is more important than an overall indicator of fatness such as BMI.

Being non-obese is not a reason for complacency or a guarantee of lower risk of diabetes and cardiovascular disease or good metabolic profile. Most risk factors such as obesity, inappropriate diet, smoking, physical inactivity, dis-lipidaemia, and high blood pressure are known and considered to be modifiable.

This population group (27-50 years) is nearly one third of the total population of Matlab, the prevalence of undesirable outcomes was more frequent in women than men. These data and the fact that very few individuals were aware that they had any health problem, suggest a huge hidden burden of non-communicable diseases. In Bangladesh limited clinical care is available mostly in big cities and primary prevention activities are still under development. Stemming the tide of chronic disease will require a combined effort from all sectors in the coming decade.

* [BMI (Body Mass Index): It is calculated as weight (kg)/height² (m²), it is the most widely used diagnostic tool to identify weight problem within a population including: underweight, overweight and obesity.]

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