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## HEALTH REPORTER: focus on malnutrition, obesity and health 12 December 2006

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This is our monthly email bulletin, bringing together research to inform policy debates on health in developing countries. The Health Reporter aims to provide readers with a more in-depth look at a particular area of health policy. This month's theme is **malnutrition, obesity and health**. The bulletin also features summaries of new documents and other additions to the [Health Resource Guide](#)

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## Feature: malnutrition, obesity and health

There is a growing trend in many developing countries where hunger and food insecurity coexist with problems of obesity. The double burden of over and under-nutrition is largely a consequence of the "nutrition transition": populations move away from traditional grain-based diets towards high fat and sugar-laden foods. The transition is determined by economic, demographic and cultural changes in society. In many cases this has led to increased obesity.

Obesity is a risk factor for a number of chronic non-communicable diseases including diabetes, heart disease and stroke. Whilst once considered "diseases of affluence", evidence suggests that up to 115 million people suffer from obesity related problems in developing countries. As countries get richer, the incidence of obesity increases most amongst low-income groups. Studies also show that women are more susceptible to both underweight and obesity than men.

Increasing obesity, and therefore increasing risk of non-communicable diseases, adds to already overstretched health systems in developing countries, which have often been set up to deal with infectious diseases and not chronic, non-communicable diseases. It is important to focus efforts towards dealing with obesity as well as undernutrition if progress is to be made towards reaching the Millennium Development Goals: In particular, focusing policies and interventions on improving the nutritional status of vulnerable people.

### For more information see:

- Health Resource Guide: nutrition  
<http://www.eldis.org/health/nutrition/index.htm>
- WHO Nutrition  
<http://www.who.int/topics/nutrition/en/>
- Express Pharma Pulse, India: conversation "India has enormous undernutrition and overnutrition problems"  
<http://www.expresspharmaonline.com/20030327/conversation.shtml>

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## Recommended readings on malnutrition, obesity and health

### **The burden of disease from undernutrition and overnutrition in countries undergoing rapid nutrition transition: a view from Brazil**

Authors: Monteiro, C. A.; Conde, W. L.; Popkin, B. M.  
Produced by: American Journal of Public Health (2004)

This paper, published in the American Journal of Public Health, assesses the nutritional changes that occurred in the adult female population of Brazil during the last quarter of the 20th century using data from surveys taken between 1975 and 1997. The paper finds that between 1975 and 1989 the prevalence of underweight was nearly halved, whereas obesity prevalence doubled. Between 1989 and 1997, the overall level of underweight and obesity remained relatively stable; however, when income is taken into consideration, the paper observes that obesity increased for low income women and decreased for high income women. In 1997, Brazilian low-income women were significantly more susceptible than high income women to both underweight and obesity.

The paper suggests that measures of underweight and obesity combined are a good indicator of the overall burden of nutritional diseases. It concludes by noting that this burden was larger for low-income women in both the 1975 survey -- when undernutrition was the main problem, and in the 1997 survey -- when obesity took over. The authors suggest that obesity prevention should be included as a priority for food and nutrition policies in countries undergoing rapid transition, and the focus of these policies should be placed on the lower income social classes.

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC23208>

### **The nutrition transition: worldwide obesity dynamics and their determinants**

Authors: Popkin, B.M.; Gordon-Larsen, P; International Journal of Obesity; UNC Carolina Population Center  
Produced by: Nature Publishing Group (NPG) (2004)

Published in the International Journal of Obesity, this article explores the major changes in diet and physical activity patterns around the world, focusing on shifts in obesity (the condition of being extremely overweight). Key findings include evidence of rapid increases in demand and consumption of edible oils, sugars and other caloric sweeteners, and animal-source foods in low-income developing countries. Related changes in physical activity include a shift away from high-energy expenditure activities such as farming, mining and forestry towards the service sector; and changes in modes of transportation and in leisure activities. Data on obesity patterns and trends shows that levels of overweight and obesity are increasing faster in the developing world than in higher-income countries. There is a particularly high obesity prevalence in adolescents, which has been shown to persist into adulthood.

The authors suggest that modern societies seem to be converging on a diet high in saturated fats, sugar, and refined foods but low in fibre (the typical "Western" diet) and lifestyles characterised by low physical activity. They conclude that rapid dietary and activity pattern shifts, particularly in the developing world, are resulting in major shifts in obesity on a global basis, with a likely increase in morbidity from related non-communicable diseases. [adapted from author]

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC18900>

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### **Rethinking the "diseases of affluence" paradigm: global patterns of nutritional risks in relation to economic development**

Authors: Ezzati, M.  
Produced by: Public Library of Science Medicine (PLoS Medicine) (2005)

This paper, published in the Public Library of Science Medicine, examines the global health effects of economic development, focusing on cardiovascular diseases and their nutritional risk factors, including overweight and obesity, elevated blood pressure, and cholesterol. The paper highlights findings from a study which used data from over 100 countries to examine the relationship between mean (average) blood pressure, cholesterol, and body mass index (BMI) and the following factors: national income, average share of household expenditure spent on food, and the proportion of the population living in urban areas. Results showed that BMI/cholesterol both increased in relation to national incomes, most rapidly up to an income of 5,000 US dollars (adjusted for inflation and for differences between countries in purchasing power). Higher BMI and cholesterol levels were also associated with lower household spending on food, and with urbanisation.

The authors argue that cardiovascular disease can no longer be classified as a disease of the rich. Cardiovascular disease risks can be expected to systematically shift to low- and middle-income countries and, together with the persistent burden of infectious diseases, further increase global health inequalities. The paper recommends that preventing obesity should be a priority from early stages of economic development, accompanied by population-level and personal interventions for blood pressure and cholesterol.

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC11751>

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### **The global face of nutrition: what can governments and industry do**

Authors: Kennedy, E.  
Produced by: Journal of Nutrition (2005)

This article, published by the Journal of Nutrition, discusses trends in food security and nutrition and potential strategies for addressing new nutritional challenges. The article suggests that a nutritional transition has been occurring over the past three decades whereby traditional grain-based diets give way to eating patterns characterised by more animal products, more added sugar, and more added fat. It argues that this transition has led to overweight and obesity, and in developing countries it has given rise to an increasing trend of food insecurity and undernutrition coexisting side by side with problems of over-nutrition and chronic diseases. The paper also finds that in some developing countries, the highest rates of obesity are found in women and low income groups.

The article highlights key challenges to addressing these problems. These include: identifying new ways of dealing with diet-related chronic diseases whilst simultaneously continuing to address undernutrition, food insecurity and hunger; the need for a greater awareness of the nature and magnitude of the problem; and identifying policies, programmes and approaches to deal with problems of malnutrition. The author recommends that investment in applied nutrition research is needed to identify and implement effective approaches for promoting healthy lifestyles.

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC23209>

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### **Repositioning nutrition as central to development: a strategy for large-scale action**

Authors: World Bank

Produced by: World Bank (2006)

Malnutrition is still an extremely serious development issue, with around a third of the developing world's population -- particularly the inhabitants of sub-Saharan Africa and South Asia suffering from micronutrient deficiencies and below optimal weight. This comprehensive report finds that unless policies and priorities are changed, the scale of malnutrition will prevent many countries from achieving the Millennium Development Goals (MDGs).

The report finds that a new dimension to the malnutrition problem, the condition of obesity and poor-diet related disease, is beginning to impact on some developing countries. As a consequence, these countries are now beginning to suffer from the double burden of both malnutrition and obesity. This is called the "nutrition transition". Aside from the recognition that the MDGs will not be reached unless malnutrition is tackled, this report reveals that:

- malnutrition is linked to the AIDS pandemic, making adults more susceptible to the virus, and inadequate infant feeding aggravates its transmission from mother to child. Malnutrition may also make antiretroviral drugs less effective
- there is now unequivocal evidence that there are workable solutions to the malnutrition problem and that they are excellent economic investments
- the returns of investing in micronutrient programs are second only to the returns of fighting HIV among a lengthy list of ways to meet the world's development challenges
- the focus must be on preventing and treating malnutrition among pregnant women and children aged zero to two years
- school feeding programmes do not attack the malnutrition problem at its roots

The report argues that there are both long and short routes to improving nutrition but that more attention therefore needs to be given to shorter routes to better nutrition. It recommends that:

- health and nutrition education and micronutrient fortification and supplementation be provided
- more attention needs to be directed to gender issues such as pregnant women's care of themselves and their children
- conditional cash transfers are a good way to get poor people to use nutrition services

This report is intended to provide a framework to help countries decide what nutrition actions are appropriate under different circumstances, and is intended to help development partners prioritise countries for support. It stresses the need for sound policy analysis, and developing the appropriate capacity and institutional arrangements to manage nutrition programmes. Strengthening commitment to tackling malnutrition and forging new partnerships are critical to making progress towards better nutrition.

[adapted from author]

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC21325>

## Other recommended readings

### **Communication for immunization campaigns for maternal and neonatal tetanus elimination: a guide to mobilising demand and increasing coverage**

Authors: Boggs, M.K.; Bradley, P. M.; Storti, C. Z.

Produced by: Save the Children Fund (SCF) (2006)

This guide, published by Save the Children, describes how to design and carry out a social mobilisation programme to create demand and increase participation during immunisation campaigns and routine immunisations. The approach was developed and used in maternal and neonatal tetanus (MNT) immunisation campaigns in Ethiopia, Mali and Pakistan. The guide describes the stages required for an effective social mobilisation programme: gathering information; designing a strategy; and carrying out activities. It presents lessons learned from carrying out the campaigns, with a focus on communications activities for promoting and facilitating the adoption of specific positive behaviours.

The guide argues that social mobilisation - especially involving organised groups and individuals at the local level - is essential for a successful immunisation campaign. In Ethiopia, Mali and Pakistan, communication and social mobilisation activities helped the countries achieve high coverage by building community demand. However, social mobilisation comprises only part of what is needed for effective immunisation campaigns. Other requirements include: an adequate amount of vaccines and supplies; a well maintained "cold chain" (the process of transporting and storing vaccines within the safe temperature range); trained personnel to deliver quality immunisations; and management and supervision of service delivery.

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC23089>

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### **Opportunities for Africa's newborns: practical data, policy and programmatic support for newborn care in Africa**

Authors: Partnership for Maternal, Newborn and Child Health

Produced by: The Partnership for Maternal, Newborn and Child Health (PMNCH) (2006)

This report, published by the Partnership for Maternal, Newborn and Child Health, provides an overview of the continuum of care for maternal, newborn and child health (MNCH) in Africa. The report investigates the prevalence and causes of neonatal deaths and highlights the gaps in coverage of care through the pre-pregnancy, pregnancy, childbirth and postnatal period. It also discusses how to integrate care with key programmes aimed at preventing mother to child transmission of HIV, controlling malaria, and immunisation. The report presents case studies of six African countries - Eritrea, Malawi, Burkina Faso, Madagascar, Tanzania, and Uganda - which have progressively reduced newborn death rates despite low gross national income.

The authors find that two thirds of the 1.6 million newborn deaths in sub-Saharan Africa could be avoided if essential interventions already in policy reached 90 per cent of African mothers and newborns. The report highlights key opportunities in policy and programmes to save newborn lives. These include: promoting the delay of first pregnancy until after 18 years, increasing availability of skilled care during childbirth, and addressing anaemia in pregnancy through iron supplementation. It also highlights important factors for policy-makers to make MNCH gains. These include: bridging national policy and district action, and commitment to increasing investment in health and maximising human resources.

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC23108>

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### **Effect of the HIV epidemic on infant feeding in South Africa: "When they see me coming with the tins they laugh at me"**

Authors: Doherty, T.; Chopra, M.; Nkonki, L.

Produced by: Bulletin of the World Health Organization (WHO): the International Journal of Public Health (2006)

This article, published in the Bulletin of the World Health Organization, explores how the HIV epidemic has affected the infant feeding experiences of HIV-positive mothers in South Africa. The paper finds that the HIV epidemic has changed the context in which infant-feeding choices are made and implemented. HIV positive mothers are struggling to protect their decision-making autonomy; uncertainty about the safety of breastfeeding has increased the power and influence of health workers who

act as gatekeepers to knowledge and resources such as formula milk. Women who chose to exclusively formula feed experience difficulties accessing formula milk because of inflexible policies and a lack of supplies at clinics. Limited support for mothers with newborn babies can result in social isolation and mothers doubting their ability to care for their children.

The article concludes that the infant-feeding experiences of HIV-positive mothers have serious implications for the operational effectiveness of programmes that aim to prevent HIV transmission from mother to child. A better understanding of how HIV is changing infant-feeding practices can inform the development of interventions to improve infant-feeding counselling and support for mothers with newborn children. [adapted from authors]

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC23190>

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### **Compliance of young children with ITN protection in rural Burkina Faso**

Authors: Fray, C.; Traore, C.; De Allegri, M.; et al

Produced by: Malaria Journal, BioMed Central (2006)

This paper, published in the Malaria Journal, examines the behavioural factors which influence the effectiveness of insecticide treated bednets (ITNs) in reducing the incidence of malaria in Burkina Faso. The paper finds that ITNs were perceived as very important for protection against mosquitoes and malaria particularly during the rainy season, but there were problems with their use during the dry season. Young children usually slept with their mother under the ITN and self-reported compliance was 66 per cent and 98 per cent during dry and rainy season, respectively. Important reasons for low compliance during the dry season include high temperatures inside houses, and problems related to changing sleeping places during the night.

The paper concludes that the effectiveness of ITN interventions depends to a large degree on human behaviour, but is also influenced by socio-cultural traditions and economic and environmental determinants. Compliance with ITN protection in young children is sufficient during the rainy season, but is rather low during the hot and dry season. The authors recommend that greater emphasis needs to be placed on information or education efforts to make people aware of the fact that the risk of contracting malaria may persist throughout the year.

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC23191>

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### **The meaning and measurement of acute malnutrition in emergencies: a primer for decision makers**

Authors: Young, H.; Jaspars, S.

(2006)

This paper, published by the Humanitarian Practice Network, reviews how nutrition data is collected, analysed and interpreted in emergencies. The prevalence of acute malnutrition is one of the most widely used indicators of the severity of humanitarian crises, yet there is little guidance on how to conduct national surveys and understand and use their results. The paper describes some of the basic concepts used in nutrition, sets out how nutritional information is typically used, and explains how nutrition surveys are constructed and interpreted.

The paper shows that malnutrition data can be used as an objective indicator of crisis. Acute malnutrition data can help in identifying the severity and nature of crisis, and thereby help identify appropriate responses to address malnutrition and its underlying causes. The authors suggest that agreement is needed amongst the international community on methods for assessing micronutrient deficiency disorders and of the underlying causes of malnutrition. There is also a need for commitments to a broader range of strategies for addressing malnutrition in a more comprehensive and coherent manner.

Available online at: <http://www.eldis.org/cf/rdr/rdr.cfm?doc=DOC21548>

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