WEEKLY EPIDEMIOLOGICAL REPORT
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Overweight and Obesity: Reducing the Burden (part II)

(Part I of this article was published in the previous issue.)

Many factors contribute to overweight and obesity. It is now known that our diet and the level of physical activity are influenced by the environment and behavioural changes. The end result is a high-calorie diet and a sedentary way of life. Nowadays, home-cooked meals are becoming a thing of the past especially in urban settings, and surveys indicate that food to be higher in fats and added sugars than food cooked at home. To add to this, we are becoming an increasingly sedentary society and low levels of physical activity is becoming a significant public health challenge. Fifty years ago 'physical activity' may not have been an issue. But things have changed, and we have removed many opportunities that we get for physical activity during our day-to-day living.

What causes overweight and obesity?

A wide range of factors contribute to the health of individuals including:

- Age, sex and hereditary factors
- Individual lifestyle factors (diet and physical activity)
- Social and community networks
- Living and working conditions and
- General socioeconomic, cultural and environmental conditions.

These factors or determinants of health are shown in Figure 1 as a series of layers, starting from the individual and moving to the determinants of the wider society. Most of these 'wider determinants' lie outside the direct influence of the health services. However, these determinants have an impact on the prevalence of overweight and obesity.

For example, the traditional habits and customs of our social network can determine the balance of our diet, a fear of crime and social unrest can discourage physical activity, and the inaccessibility can influence the intake of fresh, affordable fruit and vegetables. As the average income rises, the reliance on technology and labour-saving devices increases, leading to lower levels of physical activity and higher consumption of processed foods. In many developing countries like ours, these trends are leading to an increase in the prevalence of obesity and its consequences such as diabetes.

Figure 1. Determinants of health

Source: Dahlgren and Whitehead, 1991

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Many risk factors for overweight and obesity originate during childhood. Children are particularly vulnerable to social and environmental conditions within the household and the wider community. Socioeconomic deprivation seems to be an important determinant of obesity in childhood which compounds problems experienced in later life. Studies have shown that obese children have poorer educational and social outcomes. Healthy children are vital to the future health and productivity of society as a whole. Therefore, it is paramount that wider determinants are tackled at the earliest possible stage if the prevalence of overweight and obesity is to be reduced and for maximum health gain to be achieved.

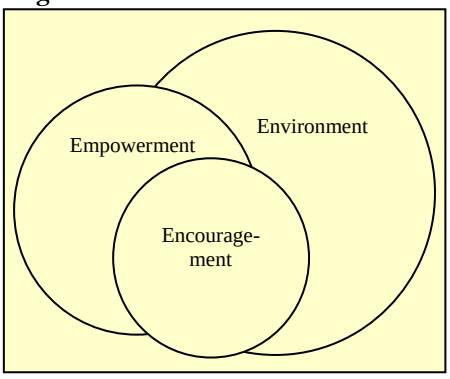
How to reduce the burden of overweight and obesity?

There are two broad approaches to talking overweight and obesity through:

- Prevention – interventions aimed at preventing overweight developing in the first place starting from childhood, and
- Weight management – interventions aimed at weight reduction or weight control in people who have already become overweight or obese.

Both these approaches can be undertaken in a range of settings, through a number of partner agencies, and should be a coordinated effort through the whole system. An attempt at lifestyle modification must consider a holistic approach. The 'Three E's Model' shown in Figure 2 is a simplified approach to consider ways of supporting changes in behaviour.

Figure 2. The 'Three E's Model' for lifestyle change



Source: Maryon Davis, 2005

Encouragement refers to simple methods of encouragement to support individuals to change their lifestyle (e.g., to eat low-calorie foods or to take more exercise through adverts leaflets, one-to-one advice in clinical settings, media campaigns). Encouragement is a useful trigger for people to make healthy choices, but is unlikely to be effective or sustained across the whole population without empowerment. Empowerment refers to the process of providing knowledge and skills, including life skills, to help an individual make healthy changes that might include, for example, an awareness of basic nutritional principles, food-shopping skills, cooking skills, and building confidence and self-esteem. In turn, its effectiveness can be greatly increased by the environment, which refers to the total cultural, social, physical and economic environments required to facilitate improvements in lifestyle factors such as diet and physical activity. Encouragement and empowerment together can achieve little without a conducive total environment. Any of these steps to assist behavioural change should be taken in partnership with the individual.

How do we prevent overweight and obesity?

There are two complementary approaches to prevent overweight and obesity:

- The whole-population approach, which aims to reduce the average risk of becoming overweight or obese across the whole population, and
- The individuals-at-risk approach, which aims to identify those at increased risk of becoming overweight or obese and offer them appropriate advice on how to reduce the risk.

At population level, the intervention strategies required to prevent overweight and obesity could be either strategies to improve the nutritional balance of the average diet, with an emphasis on lower-calorie alternatives or strategies to increase community-wide levels of physical activity. Important advantages of the whole-population approach include benefiting a large number of people with achievable and modest changes in lifestyle with many different sectors and agencies playing a part at a relatively low cost. Some barriers for such interventions include the usual resistance to lifestyle modifications, the inability of individuals to control many such determinants and sustainability over long periods of time.

The individuals-at-risk approach focuses on for example children from families where at least one parent is obese, older people, people with physical disability, women after pregnancy and at menopause, and people with psychological problems such as stress or depression. When taking an individual approach, it is important to consider factors such as personality, socioeconomic status and culture, and to tackle the behaviour which increases overweight and obesity. When working with children, it is particularly important to work with the whole family, and not just the child. Children do not make their own decisions about what and how much they eat. But their parents will, and any of the parents' own food issues (such as overeating) can have an impact on the type of food available to the child and to the child's subsequent relationship with food.

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This article was compiled by Dr. Hasitha Tissera

Table 1: Vaccine-preventable diseases & AFP

6th - 12th January 2007 (2nd Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	01 KD=1	00	00	01 PU=1	00	00	00	02	01	02	01	+100.0%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Tetanus	00	00	00	00	00	00	01 BD=1	00	01	00	01	02	-50.0%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Tuberculosis	110	94	14	23	07	06	11	07	272	116	434	432	+00.5%

Table 2: Diseases under Special Surveillance

6th - 12th January 2007 (2nd Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
DF/DHF*	63	37	14	01	26	00	03	19	163	158	367	417	-12.0%
Encephalitis	01 KL=1	00	00	00	01 PU=1	00	00	00	02	00	11	03	+266.7%
Human Rabies	00	01 NE=1	00	00	00	00	00	00	01	00	04	04	00.0%

Table 3: Newly introduced Notifiable Diseases

6th - 12th January 2007 (2nd Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Total number of cases to date in 2007
	W	C	S	NE	NW	NC	U	Sab		
Chickenpox	07 CB=2 KL=5	11 NE=11	04 GL=2 MT=2	17 TR=17	04 KR=4	00	00	05 RP=4 KG=1	48	54
Meningitis	00	01 KD=1	00	00	01 KR=1	01 PO=1	05 BD=4 MO=1	01 RP=1	09	19
Mumps	05 CB=3 KL=2	00	00	00	02 KR=2	00	01 BD=1	00	08	09

*__DF / DHF__ refers to Dengue Fever / Dengue Haemorrhagic Fever.
__NA__= Not Available.
Sources:
Weekly Return of Communicable Diseases:
Diphtheria, Measles, Tetanus, Whooping Cough, Human Rabies, Dengue Haemorrhagic Fever, Japanese Encephalitis, Chickenpox, Meningitis, Mumps.
Special Surveillance:
Acute Flaccid Paralysis.
National Control Program for Tuberculosis and Chest Diseases:
Tuberculosis.
Details by districts are given in Table 5.

Provinces: W=Western, C=Central, S=Southern, NE=North & East, NC=North Central, NW=North Western, U=Uva, Sab=Sabaragamuwa.
DPDHS Divisions: CB=Colombo, GM=Gampaha, KL=Kalutara, KD=Kandy, ML=Matale, NE=Nuwara Eliya, GL=Galle, HB=Hambantota, MT=Matara, JF=Jaffna, KN=Killinochchi, MN=Mannar, VA=Vavuniya, MU=Mullaitivu, BT=Batticaloa, AM=Ampara, TR=Trincomalee, KM=Kalmunai, KR=Kurunegala, PU=Puttalam, AP=Anuradhapura, PO=Polonnaruwa, BD=Badulla, MO=Moneragala, RP=Ratnapura, KG=Kegalle.

Table 4: Laboratory Surveillance of Dengue Fever

6th - 12th January 2007 (2nd Week)

Samples	Number tested	Number positive	Serotypes				
			D_1	D_2	D_3	D_4	Negative
Number for current week	32	01	00	00	01	00	00
Total number to date in 2007	86	04	00	01	02	00	00

Source: Genetech Molecular Diagnostics & School of Gene Technology, Colombo.

Table 5: Selected notifiable diseases reported by Medical Officers of Health

6th - 12th January 2007 (2nd Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptos-pirosis		Typhus Fever		Viral Hepatitis		Returns Re-ceived Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	43	83	04	09	00	01	02	04	00	00	04	07	01	01	00	01	**86**
Gampaha	13	29	00	11	00	00	01	01	00	00	00	00	00	00	01	03	**50**
Kalutara	07	27	03	07	01	01	01	02	00	01	06	09	00	00	00	01	**73**
Kandy	28	69	10	19	00	00	02	02	00	00	02	03	00	02	01	05	**77**
Matale	07	16	06	14	00	00	00	00	00	00	02	03	00	00	00	09	**83**
Nuwara Eliya	02	06	05	11	00	00	00	01	00	00	00	02	00	02	05	11	**57**
Galle	04	14	03	08	00	00	00	00	00	00	03	06	03	04	00	00	**56**
Hambantota	02	03	01	01	00	00	01	01	00	01	01	02	06	07	01	01	**80**
Matara	08	16	07	15	00	00	01	03	00	00	06	13	05	14	01	01	**100**
Jaffna	00	00	00	06	00	00	00	05	00	00	00	00	00	05	00	01	**00**
Kilinochchi	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	**00**
Mannar	00	02	00	02	00	00	00	00	00	00	00	00	00	00	00	00	**00**
Vavuniya	00	03	00	03	00	00	01	02	00	00	00	00	00	00	00	00	**50**
Mullaitivu	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	**20**
Batticaloa	00	00	02	02	00	00	00	00	00	00	00	00	00	00	03	08	**36**
Ampara	00	00	01	04	00	00	00	00	00	00	00	00	00	00	00	01	**29**
Trincomalee	01	09	01	04	00	00	00	01	00	00	00	00	00	00	00	01	**44**
Kurunegala	17	28	08	21	00	00	03	04	00	00	02	04	06	07	02	02	**82**
Puttalam	09	22	04	08	01	05	00	05	00	00	00	01	00	00	00	03	**44**
Anuradhapura	00	01	02	05	00	02	04	06	00	00	01	04	00	00	03	05	**37**
Polonnaruwa	00	05	01	13	00	00	00	01	00	00	00	01	00	00	00	00	**43**
Badulla	02	02	05	10	00	00	03	03	00	00	03	03	00	02	06	07	**87**
Monaragala	01	01	04	15	00	00	02	05	00	00	01	05	01	04	00	00	**80**
Ratnapura	03	08	07	21	00	02	03	08	00	00	01	01	00	02	02	03	**56**
Kegalle	16	22	04	09	00	00	01	02	00	00	01	02	00	00	02	02	**73**
Kalmunai	00	01	02	04	00	00	00	02	00	00	00	00	00	00	00	01	**42**
SRI LANKA	**163**	**367**	**80**	**222**	**02**	**11**	**25**	**58**	**00**	**02**	**33**	**66**	**22**	**50**	**27**	**66**	**60**

Source: Weekly Returns of Communicable Diseases (WRCD).
***Dengue Fever / DHF** refers to Dengue Fever / Dengue Haemorrhagic Fever.
****Timely** refers to returns received on or before 20 Jan. 2007. Total number of reporting units = 290. Number of reporting units data provided for the current week: 175.
A = Cases reported during the current week. **B** = Cumulative cases for the year.

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