

OBESITY AND SOCIAL APPETITE IN COMMUNITY

Heni Hendriyani¹

¹Jurusan Gizi Poltekkes Depkes Bandung

ABSTRAK

OBESITAS DAN SELERA MAKAN MASYARAKAT

Obesitas telah menjadi masalah kesehatan masyarakat yang serius di seluruh dunia. Prevalensi obesitas baik pada orang dewasa maupun anak-anak meningkat dari tahun ke tahun. Masalah obesitas memerlukan penanganan yang serius karena obesitas memiliki konsekuensi yang serius terutama terjadinya penyakit yang dipicu oleh keadaan obes. Faktor sosial yang mempengaruhi pola konsumsi makanan di masyarakat perlu untuk diperhatikan. Pilihan makanan seseorang dapat merupakan refleksi dari pola sosial dalam produksi, distribusi dan konsumsi makanan di masyarakat. Tulisan ini memperkenalkan perspektif sosial dalam menggali pengaruh pola produksi, distribusi dan konsumsi makanan terhadap kejadian obesitas.

Keywords: obesitas, konsumsi makanan, distribusi makanan

INTRODUCTION

Obesity has become a serious public health problem throughout the world. The World Health Organization (2006) states that the global trends of obesity keep on getting higher¹. This phenomenon is occurred both in older age and younger age as well as in children. Childhood obesity becomes a more essential problem to be tackled since there are various health consequences of it in later life. This paper will discuss obesity and its relationship with the social context especially the social appetite that will cover obesity definition, the magnitude of obesity, health consequences of obesity, the determinant factors of obesity as well as social appetite that include food production, food distribution and

food consumption. Given the raise of the obesity prevalence in Indonesia, it is important to identify the factors that might be amenable to address obesity.

WHAT IS OBESITY?

Obesity and overweight are defined as abnormal or excessive fat accumulation that presents a risk to health². The body mass index (BMI) is the measurement of obesity in crude population that is a person's weight (in kilograms) divided by the square of his or her height (in meters). A person with a BMI of 30 or more is commonly considered obese while a person with a BMI equal to or more than 25 is considered overweight².

Table 1
Weight Classifications Based on BMI

Category	BMI (kg/m ²)
Underweight	< 18.5
Normal	18.5 – 24.9
Overweight	25.0 – 29.9
Class I obesity	30.0 – 34.9
Class II obesity	35.0 – 39.9
Class III obesity (extreme or morbid)	> 40.0

National Institutes of Health (NIH) 1998³

The magnitude of obesity

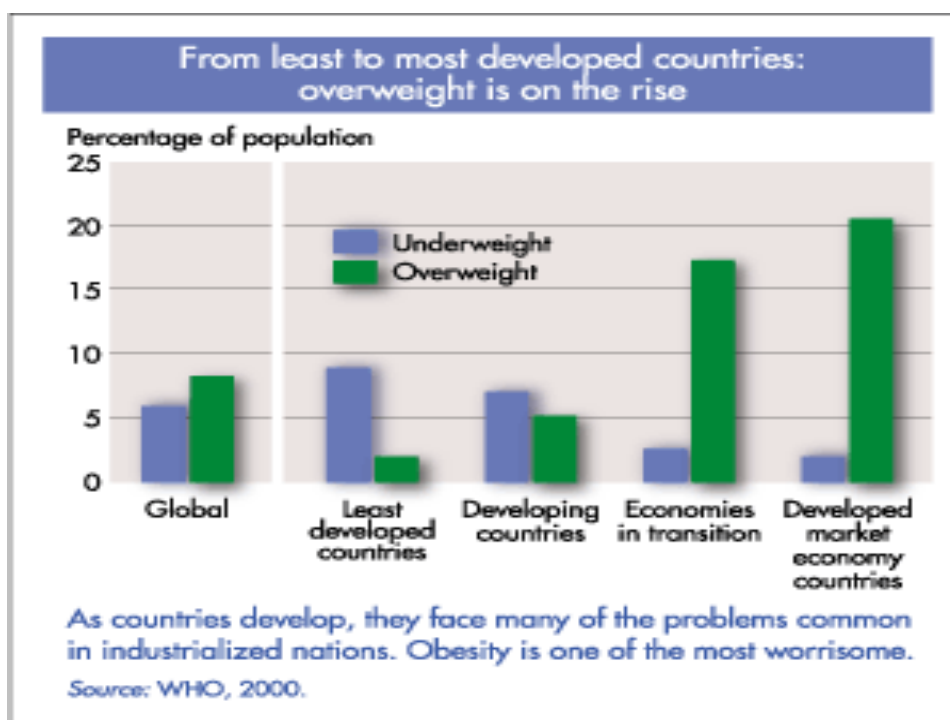
Both in developed and developing countries, there is a sharp increase of overweight and obesity prevalence especially in urban settings. Obesity is no longer become a high income countries' problem². Approximately 2.3 billion adults will be overweight and more than 700 million will be obese by 2015¹.

According to Food and Agriculture Organization (FAO) (2009), obesity in the developing countries present as consequences of a series of changes in diet, physical activity, as well as health and nutrition that is commonly called 'nutrition transition',⁴. When low income countries become more affluent, they obtain

some benefits that is similar with high income countries, including obesity⁴.

Furthermore, as a result of 'nutrition transition', many low- and middle-income countries are recently in front of a "double burden" of disease that is in conjunction with managing the problems of infectious disease and under-nutrition, they having a sharp increase of chronic disease risk factor such as obesity and overweight. This condition is commonly present in cities area. This double burden is caused by inadequate pre-natal, infant and young child nutrition followed by exposure to high-fat, energy-dense, micronutrient-poor foods and lack of physical activity¹.

Table 2
Percentage of underweight and overweight rising in the world¹



In Indonesia, based on basic health research that was conducted by The Ministry of Health in 2007, the national prevalence of obesity among people age more than 15 years is 10.38%, among man and woman the prevalence is 13.9% and 23.8% respectively⁵. The prevalence of obesity in rural area is lower than in urban area. A survey conducted by Hadi in 2005 among senior high school students in Yogyakarta revealed that there were 7.8% obese adolescent in urban areas and 2% obese adolescent in rural areas⁶. It is clear that the

rise of obesity prevalence in Indonesia is considered in the warning position and need to be addressed seriously since obesity has many long term consequences for the health of the community.

Health consequences of obesity

Overweight and obesity lead to serious health consequences. Risk increases progressively as BMI increases. Raised body mass index is a major risk factor for chronic diseases such as:

- Cardiovascular disease (mainly heart disease and stroke) - already the world's number one cause of death, killing 17 million people each year ^{7,8}
- Diabetes – which has rapidly become a global epidemic ⁹. WHO projects that diabetes deaths will increase by more than 50% worldwide in the next 10 years.
- Musculoskeletal disorders – especially osteoarthritis.
- Some cancers (endometrial, breast, and colon) ^{8,1}

Meanwhile, childhood obesity is associated with a higher chance of premature death and disability in adulthood. Some potential health risk of childhood obesity including:

- Coronary heart disease
- Type 2 diabetes
- Cancers (endometrial, breast, and colon)
- Hypertension (high blood pressure)
- Dyslipidemia (for example, high total cholesterol or high levels of triglycerides)
- Stroke
- Liver and Gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis (a degeneration of cartilage and its underlying bone within a joint)
- Gynecological problems (abnormal menses, infertility) ¹⁰

THE DETERMINANT FACTORS OF OBESITY

The fundamental cause of obesity and overweight is an energy imbalance between calories consumed on one hand, and calories expended on the other hand. Societal trends and 'obesogenic' environments which promote the consumption of excess calories and physical inactivity are considered as part of the reason of global trends of obesity within the community ^{11,12,13}. Barriers to an active lifestyle can be found at home, work, school and community as well as promote overeating and in the meantime, individual eat too many calories whereas not getting enough physical activity. Policy and environmental change initiatives that make healthy choices in nutrition and physical activity accessible, inexpensive, and easy will

likely bear out most effective in addressing obesity ¹⁴.

Meanwhile, some clinical aspects can increase the risk for childhood obesity as well such as maternal nutritional deprivation and smoking ¹⁵; infants born to women with insulin dependent diabetes ^{16,17}; maternal smoking during pregnancy ^{18,19}; exposure to endocrine-disrupting chemicals during pregnancy ²⁰; rapid weight gain during the first year of life ²¹ and fewer hours of sleep during infancy ²². The susceptibility to overweight is influenced by genetic (heredity) and determine how the body burns calories for energy and fat storage, appetite and satiety as well ³.

Furthermore, according to WHO (2006), global increases in overweight and obesity are attributable to several factors including energy intake due to a global shift in diet towards increased intake of energy-dense foods that are high in fat and sugars but low in vitamins, minerals and other micronutrients as well as a drift towards decreased physical activity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and rising urbanization¹.

Obesity and social appetite

The recent explosive increase in prevalence of obesity reflects a complex interplay among: changes in individual behavior, changes in community structure, lifestyle and the built environment and possible exposures to certain synthetic chemicals ²³. The access to resources such as money to purchase food, grocery stores, land to plant food or transportation to the stores can be a structure factors that can influence the condition of family feeding practice. Constraints may occur when resources are lacking for example when a person's capacity for choosing and preparing food is restricted in relation to family members whose food preferences are unfeasible to please. Conversely, food choice conditions may be enabled when adequate money, transportation and food retail outlets are easily accessible and time to attain food does not contend with other activities (e.g. employment) ²⁴.

Social appetite is a term applied by Williams and Germov to refer to the social patterns of food production, distribution and consumption ²⁴. The social factors that influence

why we eat the way we do are considered noteworthy to be taking into account. While we all have individual food likes and dislikes, many of our food choices reflect our social appetite that is the social, cultural, political, religious and economic factors that affect what we eat ^{24,25}.

Food production

Firstly, foods were used to be prepared and consumed in the home, however nowadays, there has been a shift away towards food being prepared outside the home ²⁴. As a consequence, recently, fast cars/fast foods concept is being popular within the community. Freund and Martin ²⁶ state that fast cars/fast foods based on application of mass production techniques to food is related with a particular socio material landscape and motorized urban sprawl that both endorse hyper consumption. Moreover, by a range of managerial and technological means, food production is standardized so that more and more food products are uniform, cheap, and readily available. In Indonesia, there were only 29 fast foods outlet from overseas and 6 local fast foods in 1992 yet this number increased sharply in 2005 that reached 237 and 129 respectively ²⁷.

The reality that more people are moving to the city compounds the problem. In 1900, just 10 percent of the world population settled cities. Today, that figure is nearly 50 percent ³. Obesity is consider more prevalent in the city since urban areas have more changing in many sectors compare to rural areas ³. A greater range of food choices is being provided in the city with lower prices and urban activities often need less physical action than rural work as well. In addition, as more and more women work away from home, they may be too busy to shop for, prepare and cook healthy meals at home. There has been dual effect of female work-force possessing food-preparation skills, whilst taking away the time obtainable for women to complete these skills in their own homes.

Moreover, according to a study findings regarding maternal employment and early childhood overweight from the UK Millennium Cohort Study, young children's access to healthy foods and physical activity may be hindered by long hours of maternal employment rather than lack of money ²⁸. Policies supporting

work-life balance may assist parents diminish potential barriers. Linn and Novosat (2008) argue that parents can no longer keep pace either with innovations in advertising or increased spending, suggesting the need for more rigid government regulations on food marketing to children²⁹.

Food distribution

The social structure can influence some conditions in the community. According to FAO (2009), the less advantage people have less food choices and more limited access to nutrition education whereas the rich can select to adopt a healthy lifestyle³. Among lower socio-economic and socially disadvantaged people, excess weight gain is more widespread ³⁰. The most important contributor to the problem in this group of people is food security issue that is defined as 'the ability of individuals, households and communities to acquire appropriate and nutritious food on a regular and reliable basis, and using socially acceptable means' ³⁰.

Furthermore, it is considered that some industrialized countries selling the high-fat remainders such as cuts of skin, fat and little meat to other countries yet they producing leaner cuts of meat for their own people ³. Meanwhile, other dietary changes has been happened without influences from outside. For instance, in China, the consumption of high-fat foods soared as soon as per capita income grew fourfold after the economic reforms of the late 1970s, and while incomes grew, the income needed to purchase a fatty diet decreased ³.

Affordability and food availability of healthful food are essential, mainly for less advantaged people in low income neighborhoods ²⁵. Certain foods such as whole grain products and fruits and vegetables are not as available in fast food outlets, school canteen, workplace cafeterias or other places convenient to people out of home activities as are more highly processed food items and they often cost more ³¹. A study by Galvez et al (2008) found that inequalities in food store availability exist by race/ethnicity in New York has implications for racial/ethnic differences in dietary quality, obesity and obesity-related disorders³².

Food consumption

The preparation and consumption of food is an inherently social activity; whether over the

family dinner table or eating-out with friends at a café. Food can also be used as a means of social differentiation between groups of people and as a social marker of identity. For example, people of different social classes tend to choose different foods ²⁴. People's food habits are an effect of their social environment or the consequence of personal choice ²⁴. Milburn et al study on adolescent eating practice showed that from parent and adolescent perspectives, eating practice are intensely rooted in the contexts of home and school and relationships with parents and peers ¹². Eating pattern was resulted from the group's practiced with foods, and this experience was transmitted through the culture ²⁵.

Some foods are of concern for its nutritional composition, for instance, fast food. The food is typically energy dense (that is contains a high amount of kilojoules or calories for each gram of the product), being high in fat, which is a concentrated form of energy. The foods are high in salt and sugar as well. The more fat, sugar, and salt we consume, the more our taste preferences shift toward foods with high concentration of these ingredients. Foods such as fruits and vegetables that low in fat, sugar and salt but high in nutrients are more likely to taste plain in comparison. When children's palates become familiarized to foods high in fat, sugar and salt, this will become difficult since an extensive body of research shows that food preferences are formed in childhood ²⁴.

The fast food industry as well as the broader food industry has altered the food supply towards products that are high in energy (that is more fattening) as a result of the change in taste preferences. This trend has also increased the amount of kilojoules available for consumption and is one of the structural factors contributing to an environment favorable to obesity in western countries ²⁴. A study conducted by Hadi in 2004 in Yogyakarta show that obese adolescents are more likely to consume fast food 2-3 times than non obese adolescents ⁵. Meanwhile low consumption of fruits and vegetables and increased consumption of sweetened beverages are associated with the high of waist circumference and overweight among female ³³. Children who consumed three or more restaurant meals in the three days of recall consumed, on average, 2004 kJ (479 kcal) more energy daily than

children consuming no restaurant meals and had higher intakes of fat, saturated fat, calcium and soda ³⁴.

CONCLUSION

Obesity is becoming critical public health challenges in many countries. The social factors that influence why we eat the way we do are considered noteworthy to be taking into account. Previously, foods were used to be prepared and consumed in the home, however nowadays, there has been a shift away towards food being prepared outside the home. Affordability and food availability of healthful food are essential, mainly for less advantaged people in low income neighborhoods. Furthermore, the fast food industry as well as the broader food industry has altered the food supply towards products that are high in energy as a result of the change in taste preferences. This trend has also increased the amount of kilojoules available for consumption and is one of the structural factors contributing to an environment favorable to obesity. While we all have individual food likes and dislikes, many of our food choices reflect our social appetite that is social patterns of food production, distribution and consumption and these factors can influence the food intake within society as well. Therefore, a successful approach to reducing obesity and its commorbidities must also embrace understanding of community level factors including the social, built and natural environment. Some suggestions in tackling the obesity problems include:

1. The family setting has the most pressure on the development of nutrition behaviors in children and is the best medium for intervention.
2. Enhance the ability to choose and prepare healthy foods to understand nutrition and to battle nutrition misinformation.
3. Policy and environmental change initiatives that make healthy choices in nutrition and physical activity accessible, inexpensive, and easy will likely bear out most effective in addressing obesity.
4. A mutual approach engaging all stakeholders, government, food industry, media marketers, consumer groups, NGOs, health, education and food service professionals and others.

REFERENCES

1. World Health Organization. Obesity and overweight. 2006. Cited 4 June 2009. Available from <http://www.who.int/mediacentre/factsheets/fs311/en/index.html>.
2. World Health Organization (WHO). Obesity. 2009. Cited 4 June 2009. Available from <http://www.who.int/topics/obesity/en/>.
3. Kelly, EB. Obesity: health and medical issue today. Westport: Greenwood Press, 2006
4. Food and Agriculture Organization (FAO). The nutrition transition and obesity. 2009. Cited 28 August 2009. Available from <http://www.fao.org/FOCUS/E/obesity/obes1.htm>
5. Departemen Kesehatan RI. *Riset Kesehatan Dasar 2007*. Jakarta: Badan Penelitian dan Pengembangan Kesehatan.. 2008.
6. Hadi, H. Beban ganda masalah gizi dan implikasinya terhadap kebijakan pembangunan kesehatan nasional. Pidato pengukuhan jabatan guru besar pada fakultas kedokteran UGM. Yogyakarta: UGM, 2005.
7. Bibbins-Domingo K, Coxson P, Pietcher MJ, Lightwood J, Goldman L. Adolescent overweight and future adult coronary hearth disease. *New England* 2007, *J Med* 357(23):2371-2379.
8. Bjorge T, Engeland A, Tverdal A, Smith GD. Body mass index in adolescence in relation to cause-specific mortality: a follow up of 230.000 Norwegian adolescents. *American J Epidemiol* 2008; 168:30-37
9. Lee JM, Okumura MJ, Freed GL, Menon RK, Davis MM. Trends in hospitalizations for diabetes among children and young adults: United States, 1993-2004. *Diabetes Care* 2007; 30(12):3035-3039
10. Centers for Disease Control and Prevention. Health consequences. 2009a. Cited 28 August 2009. Available from <http://www.cdc.gov/obesity/causes/health.html>
11. Harrington, D.W. and Elliot, S.J. Weighing the importance of neighbourhood: a multilevel exploration of the determinants of overweight and obesity. *Social Science and Medicine*. 2009; 68(4):593.
12. Santana, P., Santos, R., Nogueira, H. The link between local environment and obesity: a multilevel analysis in the Lisbon metropolitan Area, Portugal. *Social Science and Medicine*. 2009;68(4):601.
13. Delormier, T., Frohlich, K.L., Potvin, L. Food and eating as social practice-understanding eating patterns as social phenomena and implications for public health. *Sociology of Health and Illness* 2009;31(2):215 – 228.
14. Centers for Disease Control and Prevention (CDC). Overweight and obesity. 2009b. Cited 28 August 2009. Available from <http://www.cdc.gov/obesity/index.html>
15. Meaney MJ, Seckl JR. Glucocorticoid programming. *Ann NY Acad Sci* 2004;1032:63-84
16. Bo S, Menato G, Gallo, ML, Bardelli C, Lezo A, Signorile A et al. Mild gestational hyperglycemia, the metabolic syndrome and adverse neonatal outcomes. *Acta Obstet Gynecol Scand* 2004;83(4):335-340
17. Dabelea D, Hanson RL, Lindsay RS, Pettitt DJ, Imperatore G, gabir MM, et al. Intrauterine exposure to diabetes conveys risks for type 2 diabetes and obesity 2000;49(12):2208-2211
18. Bergmann KE, Bergmann RL, von Kries R, Bohm D, Richter R, Dudenhausen JW et al. Early determinants of childhood overweight and adiposity in a birth cohort study: role of breast-feeding. *Int J Obes* 2003;27:162-172
19. Oken E, Levitan EB, Gillman MW. Maternal smoking during pregnancy and child overweight: systematic review and meta-analysis. *Int J Obes* 2008;32:201-210
20. Newbold RR, Padilla-Banks E, Snyder RJ, Philips TM, Jefferson WN. Developmental exposure to endocrine disruptors and the obesity epidemic. *Reprod Toxicol* 2007;23(3):290-296

21. Reilly JJ, Armstrong J, Dorosty AR, Emmett PM, Ness A, Rogers I, et al. Early life risk factors for obesity in childhood cohort study. *BMJ* 2005;330:1357
22. Taveras EM, Rifas Shiman SL, Oken E, Gunderson EP, Gilman MW. Short sleep duration in infancy and risk of childhood overweight. *Arch Pediatr Adolesc Med* 2008;162(4):305-311
23. Trasande, L., Cronk, C., Durkin, M., Weiss, M., Schoeller, D.A., Gall, EA, et al. Environment and obesity in the National Children's Study. *Environmental Health Perspectives*. 2009;117(2): 159-166.
24. Williams, L and Germov, J.. The social appetite a sociological approach to food and nutrition. In *Second opinion an introduction to health sociology*, Germov, J. Editor. 3rd ed. London: Oxford University Press. 2006.
25. Contento, I.R. *Nutrition Education Linking Research, Theory, and Practice*, Sudbury: Jones and Barletts Publishers, 2006.
26. Freund, P and Martin, G. Fast cars/fast foods: hyperconsumption and its health and environmental consequences. *Social theory and health*. 2008;6(4):309-322
27. Hardinsyah. Upaya peningkatan pemahaman dan perilaku gizi seimbang pada pelaku industri jasa makanan. "Peran pendidikan dalam membangun pemahaman dan perilaku gizi seimbang menuju generasi sehat, cerdas, aktif dan produktif". Seminar satelit. Widyakarya Nasional Pangan dan Gizi IX. Jakarta: LIPI, 2008.
28. Hawkins SS, Cole TJ, Law C. Maternal employment and early childhood overweight: findings from the UK Millennium Cohort Study. *International Journal of Obesity* 2008; 32(1):30-38
29. Linn S, Novosat CL. Calories for Sale: Food Marketing to Children in the Twenty-First Century. *Annals of the American Academy of Political and Social Science*. 2008;615:133
30. Commonwealth Department of Health and Aging, *Health Weight 2008 – Australia's Future: report of the National Obesity Taskforce Canberra: Australian Institute of Health and Welfare & Obesity*, 2003.
31. Drewnowski, A.N., N. Darmon and A. Briend,. Replacing fats and sweets with vegetables and fruits-a question of cost. *American Journal of Public Health* 2004, 94(9): 1555-1559.
32. Galvez, M.P, Morland, K., Raines, C, and Kobil, J. et al.. Race and food store availability in an inner-city neighbourhood. *Public Health Nutrition*. 2008,11(6):624-631
33. Francis, DK, Van den Broeck, J, Younger N, McFarlane S, et al. Fast-food and sweetened beverage consumption: association with overweight and high waist circumference in adolescents. *Public Health Nutrition*. Cambridge. 2009, 12(8):1106-1114.
34. Downs SM, Arnold A, Marshall D, McCargar LJ, et al. Associations among the food environment, diet quality and weight status in Cree children in Québec. *Public Health Nutrition*. Cambridge 2009, 12(9):1504-1511