

PERCEPTIONS OF OBESITY AND DIABETES IN SOCIETIES IN TRANSITION[#]

Saqib Shahab

*Health Services Academy
Islamabad, Pakistan*

Societies such as Pakistan are changing rapidly in terms of their diet and energy expenditure. For a significant proportion of the population this is translating into an epidemic of obesity and its subsequent medical complications such as diabetes. Preventive public health programs need to target the most vulnerable population subgroups and educate them regarding healthy eating and adequate exercise. Attempts to do so may be frustrated by the fact that traditional societies have a body image that idealizes the obese body form. Explanatory models of illness do not agree with allopathic approaches to treating obesity and diabetes. These belief systems need to be understood and incorporated into holistic and comprehensive public health programs and policies.

The rapidly urbanizing poor of the developing world seem to be losing the battle against disease on both fronts. Urban squalor and lack of a civic infrastructure is setting back many gains made in the control of infectious diseases. At the same time changes in diet and lifestyle are causing an epidemic of Western diseases (Robson, 1981).

Within a span of a generation or two, societies adapted to hunting-gathering or subsistence farming now have access to relatively abundant calories of poor quality, in a form not encountered before. Perceptions regarding food, health and disease are lagging behind food delocalization and regional and global acculturation (Pelto & Pelto, 1983).

Obesity appears to emerge as an early manifestation of economic advancement and of the conquest of epidemic undernutrition or infectious causes of mortality (Burkitt & Trowell, 1981). But it recedes, through change in diet and activity patterns, at a much later stage of economic stability, when its harmful events have become firmly entrenched. Addressing this problem early on in societies in transition is a public health challenge of immense proportions and also immense long term benefits, in preventing many of the so called Western diseases like diabetes and heart disease.

[#] Correspondence concerning this article should be addressed to Saqib Shahab, MBBs, MRCP, MPH, Assistant Professor Environmental and Occupational Health, Health Services Academy, 12D West, Bewal Plaza, Fazal-e-Haq Road, Blue Area Islamabad, Pakistan. Telephone: (92 51)9222034; Fax: (92 51)829547; e-mail: sshahab@shaip.sdnpk.undp.org.

immense long term benefits, in preventing many of the so called Western diseases like diabetes and heart disease.

Pakistan has the highest urbanization rate of South Asia (UNICEF, 1987). This, coupled with rapid mechanization of agriculture is resulting in an accelerated change in the dietary and energy consumption patterns of a significant proportion of the Pakistani population. In Western societies, the industrial revolution was followed by a demographic transition, leading to the current epidemic of diseases of affluence. Countries such as Pakistan, however, are facing the double edged sword of demographic polarization. About one out of seven older adults in Pakistan is obese or overweight, while one in three is underweight (PMRC, 1998). This disparity thus leads itself to the anomalous situation of a society where the majority is of normal weight or underweight, but a significant minority is obese. Etic views are of malnutrition and deprivation. Emic perceptions of the ideal lend towards the obese, rotund form. All of which is leading us to the ever worsening scenario in which upto 25% of urban obese men and women may be diabetic (PMRC, 1998).

Perceptions of Body Image and Obesity

Obesity has been defined as a culture bound syndrome in that perceptions of obesity and overweight have cultural determinants (Wright & Whitehead, 1987). At some point in time, most if not all cultures have equated obesity with wealth, health and fertility (Cassidy, 1991). Contemporary industrialized societies idealize excessive thinness as the body shape to aspire to especially for women (Nichter & Nichter, 1991). Culturally determined aspirations translate into a direct relationship between socioeconomic status and fatness in traditional societies, and an inverse one, especially for women, in modern ones (Sobal, 1991).

Even within a single society, some racial and ethnic sub-groups may hold perceptions which differ from the majority view (Parker *et al.* 1995). Thus, in contemporary American society, for example, different perceptions of obesity held by African-American and Hispanic women compound the effects of low socioeconomic status (Kumanyika, 1993).

Significant sex differences also exist in perceptions of desirable body shape. In a study on U. S. College students (Fallon & Rozin, 1985), females were more likely to judge themselves as overweight when by objective standards they were not. Conversely, males

perceived themselves as underweight with respect to objective standards. In addition, women thought that men liked women thinner than men reported they like, but not vice versa, placing excess pressure on women to pursue thinness.

This situation dramatically reversed in a study to assess cross-cultural differences in the evaluation of male and female body shapes. Comparable groups of British and Ugandan students were asked to assess male and female figures for attractiveness. Ugandans rated the more obese women and the more anorexic male as more attractive, in complete contrast to the British (Furnham & Baguma, 1994). An attempt at explaining this disparity is made by referring to biological determinism in that culture amplifies nature that has ensured a division of labor with men developing physiques for hunting and protection and women bodies more appropriate to food gathering and child rearing.

Even today, for most of the world, being fat is culturally desirable (Cassidy, 1991). Only after two centuries of relative food security have people in the West adopted the ideal of being thin in the midst of abundance. Yet for most of the world obesity still equates with power, wealth, and influence for men and beauty and fertility for women. The fattening houses still in existence in parts of Africa and Oceania, where daughters of affluent parents go to be force fed into corpulence bear testimony to this primeval urge to approach the form of the so called fertility goddess, an overly obese woman giving birth to twins, found carved in many archeological sites from the Neolithic period in Turkey and elsewhere.

Thrifty Genes: From Friends to Foes

Thrifty genes have been postulated to confer some human populations who faced cyclical periods of food shortages with an evolutionary advantage (Turner, Levy, Clark, 1993). By coveting fatty and sugary foods like animal fat and honey, and converting them efficiently into body fat, these populations built up essential reserves to survive during periods of scarcity. These are the highly susceptible populations of today, notably American Indians and South Asians, among others, who are already encountering in the former case or beginning to in the latter example, an unprecedented incidence of obesity and diabetes (McKieue, Pierpoint, Ferrie, Marmot, 1992; Ravussin, Bennett, Valencia, Schulz, Esparza, 1994). Worse still, there is some evidence that these populations seem to retain a

preference for fattening foods even when they are clearly harmful. Whether this preference is cultural, genetic or both is open to debate (Heath, Wilson, Smith, Leonard, 1991). What is clear, however is that feasting without fasting and changes in diet and physical activity within a few generations have severely offset the successful adaptation of thousands of years (Ritenbaugh & Goodby, 1989). Is it nature or nurture? How, and how rapidly, can these traditional societies adapt to current conditions?

Commercialization and Delocalization of Food

This phenomenon deserves special mention. The perception of a large proportion of humanity, about 25% of the world's poorest, facing under-nutrition, is true. So is that of overnutrition of 20% or so of the world's richest, mostly residents of the developed countries. This leaves a large, often overlooked majority of the world's population which lives in countries that:

- ◆ are poor, predominantly agricultural economies.
- ◆ have recently introduced new foods, even as major staples of diet.
- ◆ export, regionally and internationally, most of their high quality foods in terms of animal proteins, dairy products, high fibre vegetables and fruits. In return, they purchase foods high in caloric, refined sugar, carbohydrate and fat content for their own consumption.

These processes are seen both at the micro as well as the macro level (Pelto & Pelto, 1983). In these traditional societies undergoing transition, the agricultural revolution has made it easier for more and more people to attain the much cherished obese body shape.

The Importance of Explanatory Models of Illness in the Context of Modern Diseases

Numerous authorities have emphasized the fact that up to 50% of the chronic disease burden of contemporary society can be reduced by the adoption of healthy lifestyle factors (Kraut, 1993). Prevention and treatment through lifestyle modification requires an understanding of the patient's explanatory models of illness.

A study done on predominantly white, well educated, Protestant diabetic patients at a U.S. Midwestern tertiary health care facility

yielded surprising results. Both patients with diabetes as well as health professionals were interviewed. The questions were open-ended and designed to elicit explanatory models for the five major illness domains of etiology, time and mode of symptom onset, pathophysiology, course of sickness, and treatment. In spite of the many demographic similarities between patients and staff, and the great emphasis paid to patient education, patients and health care professionals emphasized entirely different domains of the illness. "Patients emphasized the difficulties in the social domain and considered the impact of diabetes on their lives, while professionals saw diabetes as a pathophysiological problem with primary impact on patients' physical bodies" (Cohen, Tripp-Reimer, Smith, Sorofman, Lively, 1994 pp 59). Patients' fears were seen by staff as difficulties, and many social concerns of the patients were not even discussed. In less homogenous populations an even greater incongruence can be expected.

American Indian communities adopting Western lifestyles have been particularly hard hit with both obesity and diabetes. Lang has recorded narratives of illness as they relate to diabetes in the Dakota Sioux. She documents their realization of diabetes as a "new disease that has come to us" which "...has to be treated by white man's medicine. We don't have treatments for this" (Lang, 1989, pp 405). Diabetes prevention and education programs need to be sensitive to such narratives of illness. Even saying that these new diseases are the result of adoption of Western lifestyles is an oversimplification of sorts. The forced settlement of the Sioux onto a reservation in 1868, followed by their adoption of a Euroamerican diet dictated in terms of variety by government rations and subsidized foodstuffs, bears little resemblance to the relatively better balanced Western diet. Even though most diabetics in this community recognized the relationship of obesity, diet and diabetes, their narratives went beyond this, touching on other themes such as their political history. There is broad acceptance now of the fact that when an individual talks about health and illness, he also talks about something else, something much more, including the nature of his links with his physical environment and the social organization of the culture in which he lives.(Herzlich, 1979).

The quest for workable solutions.

The importance of culturally appropriate communication in pluralistic societies such as the U.S. is, or should be self evident. There is also a need to devise programs for specific minority groups. A

successful exercise program for diabetics in the Zuni Native American community employed weight loss competitions as a social support tool to ensure success (Heath *et al.*, 1991).

Kelleher and Islam have addressed this issue as a problem of integration. They attribute the high prevalence of diabetes in the South Asian population of U.K. to the traditional and religious pressures to consume excessive amounts of certain foodstuffs. They feel that it does not integrate with the system of modern medicine. They go on to suggest that whereas modern man thinks continuously in terms of risk assessment, traditional peoples have a more fatalistic view of health and illness. "God is in front: doctor is behind", a respondent is quoted as saying (Kelleher & Islam, 1994, pp. 416). Thus while the knowledge of the importance of diet in control of diabetes is there, there are no explanatory models to integrate modern medicines' global rules with the rules and customs of individual cultures. There seem to be no easy solutions.

Valiant attempts to demonstrate the reversibility of modern chronic ailments have been attempted. O'Dea has demonstrated reversibility of all metabolic abnormalities in diabetic Australian Aborigines upon adoption of a hunter-gatherer lifestyle (O'Dea, 1991a). However, this was a temporary, controlled experiment in human adaptation. She suggests that Aborigines have retained their preference for energy rich survival foods that were rare in their traditional lifestyle but abundantly available in the Western diet. She admits however that lifestyle modification in terms of a sustained reversal to the hunter-gatherer ~~lifestyle is a bit impractical. Again, there~~ seem to be no easy solutions, apart from a general agreement that public health interventions will have to be "culturally appropriate and able to be owned by the community, rather than being imposed in a well meaning fashion from the outside" (O'Dea, 1991b, pp. 263).

Treatment Implications in the Face of Cultural Heterogeneity

The standard advice to diabetics to eat less fat and sugar and exercise more, developed by the predominantly white Anglo-Saxon biomedical tradition, is poorly conceptualized even by the group it is best suited to serve (Sobal, 1991). Mexican-Americans are now the second largest and fastest growing ethnic minority in the U.S. Their political and cultural roots, comprising of Native American, Spanish and Catholic influences, are quite different from the Anglo-American mainstream. Their genetic susceptibility to diabetes also appears

higher, with rates five times the national average . Their diet has undergone a dramatic transition in this century, with the trinity of beans, corn and squash being replaced by Western staples. Attempts are being made to understand the emic perceptions of health, illness, food and nutrition among Mexican-Americans (Urdaneta & Krehbiel, 1989). The aim is to make diabetes intervention and treatment programs grounded in cultural reality, and not merely translations from English to Spanish. As an additional impediment to communication, upto 33% of the Mexican American population is not served by traditional American educational methods, which emphasize competition, deferred gratification, and a linear mode of thinking (Bloom, 1965). Educationists have found that "adults with poor literacy skills are most effectively reached by using teaching methodologies which incorporate a personal approach, an eclectic manner of compiling information, experiential learning through the use of the senses and work, reiteration of facts for reinforcement, an emphasis on cooperation and group support , and work with familiar things" (Doak et al, 1985: pp 36-39). This may well be the best way to reach people with all levels of literary skills. Teaching capsules are being developed to bridge the gap between a doctor's clinical understanding and expectations and the patient's ethno-specific views. In the domain of diet, this includes group work starting from listing of food items, to their actual purchase from a grocery store and subsequent preparation at a test kitchen. A dietitian records and measures the ingredients, with the aim of creating an acceptable diabetic diet from within the original dietary framework.

Obesity Prevention: When and Where to Begin

Evidence is emerging that stunted children are at higher risk of obesity (McCarthy, 1997). There is also now evidence to suggest that a low birth-weight may, paradoxically, predispose to a higher incidence of obesity and coronary artery disease in later life (Frankel, Elwood, Sweetnam, Yarnell, 1996). The implications of this for countries like Pakistan are enormous, where upto half of all children are stunted and 25% of all new borns are low birth weight (UNICEF, 1996).

The prevention of chronic diseases requiring sustained behavior modification needs to begin at least at adolescence, if not earlier. However, any such programs need to be sensitive to cultural belief systems and values of the groups they are targeting (Melnik & Weinstein, 1994). Concerning prevention of obesity in African-American women, for example, the need to eliminate a predominantly

white, Anglo-Saxon, ethnocentric viewpoint is stressed. Since obesity begins, and is perpetuated from adolescence, this seems to be the optimum period to target these programs. The use of religious and peer groups has been suggested. More importantly, information about healthy eating and exercise should aim at health, not at the preferred overly thin body image of contemporary white American women.

The New Public Health

A case has been put forward in a book with the above title in that current behavioral and environmental determinants of health should be dealt with the same urgency and vigor as was applied to dealing with the infectious scourges of the past century (Ashton & Seymour, 1988). The speed with which the billions in the developing world are following the millions in the developed world in adopting deleterious lifestyle habits lends this a special urgency.

Even the developed countries, with their technology and wealth, have realized that there are no quick fixes, no vaccines or antibiotics, for the now all too pervasive chronic debilitating diseases of modern man. The only real hope lies in education about healthy lifestyles for life targeting entire populations. The recent decrease in smoking, and fall in the incidence of heart disease in the U.S. bears testimony to this. Yet the gains achieved are only a small proportion of the gains possible. Understanding the cultural determinants of lifestyle changes in the third world, where resources for research are scarce and the political motivation to do so virtually non-existent, or the fourth world (Last, 1995) of disadvantaged populations in developed countries where anthropological insights are only now gaining momentum in terms of endeavoring to bring about change, is today's challenge. To sustain such beneficial changes will be tomorrow's.

CONCLUSIONS

Societies such as Pakistan are undergoing rapid transitions in diet and activity patterns which are effecting a significant proportion of the population. Simultaneously, however, the region is still facing significant deprivation. The combination of these factors has led to a virtual epidemic of diseases of affluence such as coronary artery disease and diabetes in a significant proportion of the population, especially that which is urbanized. In spite of this, etc and emic perspectives of the region continue to be that of a chronically protein

and calorie deprived state. This perception is compounded by the high prevalence of low birth weight and childhood stunting, which in themselves are paradoxical promoters of diseases of affluence if there is marginal caloric excess. All of which counters health education messages targeting specific vulnerable population subgroups to adopt healthy diet and exercise patterns. Our traditional gorging on fat rich foods on social events even by sub groups who are fairly affluent and corpulent lends credence to the assumption that we have a distorted / obese self body image / ideal.

There is a tremendous growth in the provision of allopathic and traditional medical services for the treatment of diabetes. Strangely, many of these service provisions remain detached from a holistic approach of dietary control and exercise; the emphasis being on the dispensing of allopathic and other medicines. Part of the explanation could be that both services providers as well as patients have not fully appreciated and internalized the physiological and anthropological changes that their bodies and behaviors respectively have undergone over the course of the last one to two generations; and the implication of these changes on actual versus perceived body image, food consumption, energy expenditure and maintenance of an adequate health status.

Local cultural themes need to be explored if health education, promotion and communication are to succeed within our own social milieu. This is a neglected area of public health research and intervention. The emphasis upto now has been on the dogmatic adoption of allopathic treatment regimens from the West, both by allopathic as well as the majority of traditional health practitioners.

REFERENCES

- Ashton, J., & Seymour H. (1988). *The new public health*. Milton Keynes: Open University Press.
- Bloom, B. (1965). *Compensatory education for cultural deprivation*. New York: Holt, Rhinehart and Wilson.
- Burkitt, D. P., & Trowell, H. C. (1981). *Western diseases: Their emergence and prevention*. Harvard. Cambridge, Massachusetts: University Press.
- Cassidy, C. M. (1991). The Good Body: When big is better. *Medical Anthropology*, 13, 181-213.

- Cohen, M. Z., Tripp-Reimer, T., Smith, C., Sorofman, B., & Lively, S. (1994). Explanatory models of diabetes: Patient practitioner variation. *Social Science Medical*, 38, 59-66.
- Doak, C., Doak, L. G., & Root, J. H. (1985). *Teaching patients with low literacy skills*. pp: 36-39. Philadelphia: J. B. Lippincott Co.
- Fallon, A., & Rozin, E. P. (1985). Sex differences in perceptions of desirable body shape. *Journal of Abnormal Psychology*, 94: 102-105.
- Frankel, S., Elwood, P., Sweetnam, P., Yarnell, J., & Smith, G. D. (1996). Birthweight, body-mass index in middle age, and incident coronary heart disease. *The Lancet*, 348, 1478-1480.
- Furnham, A., & Baguma, P. (1994). Cross cultural differences in the evaluation of male and female body shapes. *International Journal of Eating Disorders*, 15, 81-89.
- Heath, G. W., Wilson, R. H., Smith, J., & Leonard, B. E. (1991). Community based exercise and weight control: diabetes risk reduction and glycemic control in Zuni Indians. *American Journal of Clinical Nutrition*, 53, 1642S-1646S.
- Herzlich, E. (1979). *Health and illness: A socio-psychological approach*. London: Academic Press.
- Kelleher, D., & Islam, S. (1994). The problem of integration: Asian people and diabetes. *Journal of the Royal Society of Medicine*, 87, 414-417.
- Kraut, G. A. (1993). Why NIH must accept behavioral scientists as full partners. *The Chronicle of Higher Education*. October 27, pp: B1-B3.
- Kumanyika, S. K. (1993). Special issues regarding obesity in minority populations. *Annals of Internal Medicine*, 119, 650-654.
- Lang, G. C. (1989). "Making sense" about diabetes: Dakota narratives of illness. *Medical Anthropology*, 11, 305-327.
- Last, J. M. (1995). *A dictionary of epidemiology (3rd ed.)*. New York: Oxford University Press.
- McCarthy, M. (1997). Stunted children are at high risk of later obesity. Science and Medicine section. *The Lancet*, Pp. 349.
- McKiegeue, P. M., Pierpoint, T., Ferrie, J. E., & Marmot, M. G. (1992). Relationship of glucose intolerance and hyperinsulinaemia to body fat pattern in South Asians and Europeans. *Diabetologia*. 35, 785-791.

- Melnyk, M. G., Weinstein, E. (1994). Preventing obesity in black women by targeting adolescents: a literature review. *Journal of the American Dietetic Association*, 94, 536-540.
- Nichter, M., Nichter, M. (1991). *Hype and Weight*. *Medical Anthropology*, 13, 249-284.
- O'Dea, K. (1991a). Cardiovascular disease risk factors in Australian Aborigines. *Clinical and Experimental Pharmacology and Physiology*, 18, 85-88.
- O'Dea, K. (1991b). Westernization, insulin resistance and diabetes in Australian Aborigines. *Medical Journal of Australia*, 155, 258-264.
- Parker, S., Nichter, M., Nichter, M., Vuctovic, N., Sims, C., & Ritenbaugh, C. (1995). Body image and weight concerns among African-American and white adolescent females: Differences that make a difference. *Human Organization*, 54, 103-113.
- Pelto, P. J., Pelto, G. H. (1983). Culture, nutrition and health. In L. Romanucci-Ross, L. Moerman, D. E. Tancredi, L. R. Praeger (Eds.), *The anthropology of medicine*, (pp. 173-200) New York: Praeger.
- PMRC. (1998). *National health survey of Pakistan (1990-1994)*. Islamabad: Pakistan Medical Research Council.
- Ravussin, E., Bennett, P. H., Valencia, M. E., Schulz, L. O., & Esparza, J. (1994). Effects of a traditional lifestyle on obesity in Pima Indians. *Diabetes Care*, 17, 1067-1074.
- Ritenbaugh, C., & Goodby, C. (1989). Beyond the thrifty gene: metabolic implications of prehistoric migration into the New World. *Medical Anthropology*, 11, 227-236.
- Robson, J. (1981). Foreword in *Western diseases; their emergence and prevention*. In D. P. Burkitt H. C. Trowell H. C. (Eds), Cambridge, Massachusetts. Harvard University Press,
- Sobal, J. (1991). Obesity and socioeconomic status: A framework for examining relationships between physical and social variables. *Medical Anthropology*, 13, 231-247.
- Turner, R. C., Levy, J. C., & Clark, A. (1993). Complex genetics of type II diabetes: thrifty genes and previously neutral polymorphism. *Quarterly Journal of Medicine*, 86, 413-417.
- UNICEF. (1987). *Urban basic services: INPUT*. Bangkok: United Nations Children Emergency Fund.

- UNICEF. (1996). *Atlas of South Asian children and women*. Katmandu: United Nations Children Emergency Fund.
- Urdaneta, M. L, & Krehbiel, R. (1989). Cultural heterogeneity of Mexican-Americans and its implications for the treatment of diabetes mellitus type II. *Medical Anthropology*, 11, 269-282.
- Wright, E. J., & Whitehead, T. L. (1987). Perceptions of body size and obesity: a selected review of the literature. *Journal of Community Health*, 12, 117-129.

Received: February 16, 1998.