

Obesity or large body size?

A study in Wallis and Futuna

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Introduction

Large body size for women of Tonga and Wallis is a positive community image as it is in Fiji (Becker 1995). In medical parlance such large body size is labelled obesity, which has become designated as a disease. Considerable discussion has taken place as to whether obesity can be attributed to what Neel (1962) labelled the 'thrifty genotype'. The applicability of that genetic argument to peoples in the Pacific is highly debatable, as it is strongly overlaid by cultural criteria of body image (Pollock 1995a, b). Obesity has taken on such negative connotations, mainly associated with medical arguments and measurements, that I prefer the term 'large body size' as a relative term that allows for a range of cultural interpretations.

Body size may be measured by absolute criteria such as body mass index (BMI) that relates weight to height and assigns the tag 'obese' to those whose BMI exceeds 30, or waist hip ratio, or skinfold thickness. Each of these measures yields a number by which an individual is measured against an arbitrary scale, the Harvard scale (see Pollock 1995b for further discussion of these measures). The resulting number may be used as a diagnostic for counteractions, and possible medical interventions.

Alternatively large body size may be assessed by relative criteria, appropriate to the general culture. Indicators are stated assessments of health and well being, as Becker (1995) clearly demonstrates for western Fiji. There, as also in western Polynesia, thinness is an indication of sickness

(1995:79), or weakness as discussed below. Swinburn's advocacy for a new measure that is more appropriate to large framed Polynesians suggests a compromise between these absolute medical measures and the relative cultural assessments (Egger and Swinburn 1996).

Food is the enemy in the westerncentric approach. As Beller (1980) has shown, women are lured to food as an integral part of domestic responsibilities. Strong cultural controls, such as meals, restrict the amount, frequency and circumstances in which food is consumed (Pollock 1998). But the image of the slender young woman as alluring is also a control. Bulimia and anorexia are two illnesses resulting from extreme attempts to control body size within western cultural norms of beauty (Orbach 198). Becker found little evidence of such concerns during her initial fieldwork in the Sigatoka area of Fiji, but subsequently found attitudes and behaviours consistent with symptoms seen in Bulimia and anorexia. She accounted for the change as "a shift away from traditional experiences of self and body in Fiji as young men and women have increasing exposure to Western values and lifestyles through the media and the influx of tourists to their country." (Becker 1995:6).

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Body size and generosity with food are closely associated concepts in many Pacific societies. Here food is the facilitator for social relations. Sharing food is the major ideological principle that indicates maintenance of positive social relations between communities. Failure to give food generously is to act out of character with basic cultural and moral tenets, as is refusal to eat food offered. Thus a thin body is a sign that a family or community has failed to care for its own. Thinness must be explained. Eating well is manifest over time in healthy bodies that may be considered large by Western standards.

The finding that despite a prevalence of large body size in the Polynesian communities of Wallis and Futuna, the rate of diabetes was very low (Taylor et al. 1985) warranted further investigation to examine the relationship in these two societies between diet and activities and cultural beliefs about body image. The results may help pinpoint some of

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the factors that could assist in the control of diabetes which had been widely recorded as having a high incidence in Pacific societies. A study was carried out on both Wallis and Futuna, as well as in New Caledonia, where migrant populations from these two island societies have settled in order to see if the differences in diet and lifestyle could account for the higher rate of diabetes in the urban community.

Methods

One village in Hihifo, Wallis was selected for comparison with a village in Futuna, and a selection of Wallisians and Futunans living in Noumea, New Caledonia. The village in Wallis had been the source of data for Taylor's 1980 study that included height, weight and skin fold thicknesses, as well as blood sugar and blood pressure (1981:24). With the assistance of a Wallisian co-researcher, Malia Tafili, we visited 45 households and interviewed 78 adults, 43 female and 35 males on Wallis and Futuna. Reflections on body size, and ideals were recorded as well as dietary intake over a consecutive five day period. Group discussions with young men and women provided further interesting data. A further 12 households from these two Polynesian communities were visited in Noumea, New Caledonia where discussions were held with adults about body size, activities, and diet for the previous three days was recorded. Weights were noted as reported in clinic records of the twice annual treatment for filariasis, and also for those attending hospital for treatment of hypertension. Heights were noted from clinical records.

Results

Weights of Wallisian and Futunan women ranged between 72 kg and 115 kg. Men's weights ranged from 52 kg to 121 kg. Heights for men and women averaged at 165 cm. Of the women, 67 per cent gave their weights as 85 kg. and over, which when taken as taken along with their height around 165 cm would place them as obese according to the Metropolitan Life Insurance Co. New York table, or the South Pacific Commission table. The heaviest weights recorded were for younger women, one aged 26 weighed 115 kg, while another aged 32 weighed 106 kg. Five of the 78 respondents reported they were being treated for 'tension', i.e. hypertension. No cases of diabetes were recorded.

When asked their personal views of their body image, the men all expressed satisfaction, with one exception, an older man who weighed 52 kg. and would like to be heavier. For the women, half the informants reported they were too heavy and wanted to lose weight - most of these weighed over 85 kg. They had been given this message at the

hospital when they reported either for a pre-natal check-up or for hypertension. So the reasons given for wanting to lose weight were advice from the doctor, or one woman reported that "overweight is bad", probably a message relayed via Noumea. Conversely, one woman said she did not want to lose any of her 90 kg because she felt she would be feeble at a lighter weight. The dietary surveys showed a range of foods consumed, including both local and purchased foods. Local foods were more predominant in Futuna where cash income is even more scarce than it is in Wallis. Local foods included taro, taro fiti, kape, breadfruit, cassava and green bananas eaten together with coconut and fresh fish. Purchased foods included rice, bread (French baguette) and frozen chickens as the most commonly used items. Fresh fish was scarce in Futuna where fishing is dangerous, so canned sardines were used if finances allowed.

A meal consisted of the starch component (magisi) together with fish or chicken or coconut as accompaniment (kiki), as noted for Fiji and Polynesia (Pollock 1985). All households served the main meal at midday when children have two hours off from school. This meal frequently consisted of boiled green bananas or breadfruit together with fish boiled in coconut cream or boiled chicken. In the mornings and the evenings, the almost unchanging menu consisted of bread (baguette) and margarine served with coffee or tea with milk and sugar. The amount of sugar per cup of coffee ranged from one tablespoon to three tablespoons. Snacks were eaten by young people, purchasing them on their way home from school. They consisted of ripe bananas, green pawpaws, or chippies or other western manufactured snacks. Very few sweet biscuits or cake were eaten, they were considered expensive, and not particularly desired.

Sundays marked a change in the menu. The men put down an umu or earth oven before going to Mass, and the content were eaten after Mass, around noon. The oven contained an ample supply of several different root and tree starches, such as taro, kape, breadfruit and green bananas, together with fish, perhaps some pork. An important marker of such Sunday feasts was the falkai made of grated starch (commonly cassava) mixed with perhaps some ripe banana and coconut cream and wrapped in banana leaves for baking in the earth oven.

Our calculations of daily intake, as discussed with one of the local nutrition educators, indicate an average total intake of about 2700 calories for weekdays and about 3300 calories for Sundays. As an average for both communities 43 per cent of calories consumed, but 66 per cent by weight of the foods came from local sources. Taro, cassava and green bananas were readily available from family plantations. Rice

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and bread, baked locally in the village, had to be purchased.

A direct source of cash income was available to only 13 or the 45 households (29%), and 9 of those households were on Wallis. Jobs are scarce in both island communities, but with the government centre of the French TOM (Territoire d'outre mer) located in Matiuu, Wallis, few options are available to Futunans to obtain a cash income. On Wallis, in Hihifo district, a daughter or a son was the main source of income, and in a few cases a pension. School teaching and carpentry/builder were the major salaried occupations of these residents. So an average amount of cash for these salaried households amounted to about 8,000 CFP (approximately \$US90), with those on a pension at the lower end of this scale.

Average household size was 6.7 persons per household, with some households consisting of 15 or more people who lived in a compound of several sleeping houses, while a few other households consisted of a couple and their children. Most households contained three generations, but in three cases the grandparents were looking after grandchildren while the middle generation was away in Noumea obtaining a cash income. Many households had an indirect source of income from their relatives living and working in New Caledonia. Any income was quickly spent, not only because of the large number of persons dependent on that one income, but also because in Wallis electricity is their biggest household expense; in Futuna hydro-electricity was being relayed around the island, but householders feared the cost charged by the French company in charge of reticulation. Another expense facing many families was the cost of tickets to send relatives to New Caledonia or bring them back. Even though they travelled by ship rather than by air, the cost of a ticket ate into meagre cash resources. The pigs running loose near the beach, or penned on the api are the best investment a Wallisian or Futunan has.

In New Caledonia the households we visited fell into two distinct categories. A settlement of Wallisians and Futunans in rooms above a rectangle of disused garages provided homes for some 200 people of all ages in very cramped quarters. We were not told the rent they paid, but many of these 'households' were supported by one person, often with only temporary employment, perhaps as a carpenter, or working in the nickel mines. The nickel company was laying off workers, and Polynesians were among the first to go. These households were totally dependent on purchased food, and since magisi in the form of taro or cassava was usually very expensive in the Noumea market, they lived

on rice or some bread. Meakiki was a luxury. One household cooked a chicken with some rice for us and insisted we eat with them - they sat and watched - and I knew that was probably a chicken being saved for some special occasion. The nutrition of this community was suspect, as evidenced by sores that had not healed, and the lethargy. Rice or bread were the dominant foods, cooked over a kerosene stove, with coffee and tea once a day, but still laced with sugar. Access to fresh water is a real problem in such a settlement.

The three other Wallisian and Futunan households were visited lived in separate neighbourhoods outside Noumea. Each consisted of an extended family, in one case of 21 people running a farm on leased land. The other two families had floating residents, siblings and cousins and their children who stayed for a brief while before moving on to stay with other relatives. In both these households three and four members of the household held salaried jobs. Much of their food was purchased in the supermarkets, but for Sunday lunch after Mass they insisted on purchasing taro and cassava at the markets. They spoke of the necessity to give magisi and meakiki type foods at any community and church event. That food served to identify them as Polynesians, in distinction from their Melanesian kanak neighbours.

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Body image

Three changes in weight marked a woman's life in both rural communities. Young women endeavoured to stay slim, and this was assisted when there were community activities in which they could participate and stay active. They also had the right to decline food at this age, though if they became thin, their families expressed concern. Upon marriage, the young bride moved to her husband's relatives' house, where she was expected to put on weight, especially when she was pregnant. She was cosseted and not allowed to move about or do any household chores. If she lost weight, or appeared to her own family to be 'thin', then verbal retributions were poured on her husband's family for not caring for the new bride. The third change came after the third child. Several women told us how they tried hard to lose weight after their first two children, and succeeded to some degree. But after the third child, the weight refused to disappear. So then they maintained that weight through to menopause and beyond. When our lady of 96kg who told us she had always been that weight was visited three years later, she told us how sad she felt that she was now only 78 kg. She was very dispirited, and losing weight was clearly part of her loss of well being. She died of cancer six months later.

Women's feelings of well-being were closely associated with carrying out the moral tenets of society. Sharing food was a major responsibility within and between households in the village, and also contributing generously to large inter community events. The farewell to a much loved parish priest saw all three districts of Wallis, Mu'a, Hahake and Hihifo, martial their communities into an enormous display of food in a large school field. The women had had many meetings to discuss what food should be contributed from the Hihifo village, and the men had had similar separate meetings about the arrangements. Not only was the amount of food a subject of discussion, but the well being of other communities and extended family members was the subject of comment. Well-being was represented in ample body size.

Activities

The role of activity in that body size is an outsider's assessment, sometimes labelled energy expenditure. It is impossible to measure such energy use without disrupting a person's daily life, but we can note the significance of particular activities. For women in Futuna particularly the main activities are maintaining the house and looking after small children, and feeding pigs, with beating fibre for tapa cloth and weaving mats of pandanus leaves their major commitment. By way of contrast the men must walk some 5 or 8 miles to climb the slopes of the interior mountain ridge on which most plantations are cleared. They then dig plantations to plant root crops such as taro, and harvest such crops from those plantations, carrying their produce home either on their backs or on a bicycle they have borrowed. Such activity goes on five or six days a week, rain or shine, and in high humidity. Men also do the cooking in the earth oven, and assist with feeding the pigs as well as contributing to work in the community. It is thus not surprising that men's bodies are leaner than those of women.

Women's activities are confined to within and around the household. There are strong cultural restrictions against a woman moving too far beyond their household environment, unless going to church or a community event. Their main tasks were to prepare the materials for making tapa cloth and weaving pandanus leaf mats that constituted a major part of the local household wealth in the local rather than the cash economy. Some outlets were being sought for these handicrafts in Noumea, and one shipment had brought much needed cash to those women who had sold pieces of tapa or sleeping mats.

Beating and weaving required the women to sit on the floor of the main house, lifting a heavy beater with her arms, but with little use of her legs. The floors today are made of concrete for those who can afford it, otherwise they consist of pebbles covered with several layers of woven pandanus mats. Women may sit at their beating for four or five hours at a stretch, every day, except Sundays. Sitting on concrete, or hard pebbles, I suggest, constricts the blood vessels in the groin, buttocks and lower limbs. It is a markedly different strain on the body from sitting on a chair where the blood can flow more freely from the heart to the limbs. When we also take into consideration the heavy weights of some of these women, particularly in the trunk area, the pressure on their circulatory systems must be considerable. The energy expenditure features must be taken together with the morphological effects of such activities that are particularly diagnostic of women's activities.

Women do make some connection between their weight and the food they eat. But the overriding factor is the love of food and eating (see Pollock 1989). It is a pleasurable experience; it breaks up the monotony of the day, and is a sociable event with most of the family present. Those values are further enhanced when there is a feast or big celebratory occasion. Then the social group participating enlarges, and the enjoyment increases accordingly. Medical officers, all French, have made people aware of their 'overweight', especially when they attend the hospital for hypertension. So it was not surprising that some women felt their weight was excessive. But in many cases it was not said with any conviction, and perhaps was

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given as the 'expected' answer rather than with the expectation that they should lose that excess weight. Women who had been put on a diet because of a history of hypertension admitted that they had a hard time sticking to the diet - "I forget, because I like to eat taro and bananas when they are in front of me" one woman told us. Even the Sisters with whom I ate regularly, one of whom was in charge of teaching home economics at the local high school talked of going on a diet "tomorrow" because there was always something good to eat today!

Conclusions

A conflict has been introduced into the daily lives of the women of Wallis and Futuna, that is between their love of food and the health warnings about being overweight. For them a weight of 85 or 90 kgs. means feeling strong, whereas given their tallness it puts them on the edge of being obese by outside scales. Body image has such a positive place in the evaluation of community well being that the introduced medical ideas of obesity have not been

readily accepted. There is a further conflict in that doctors or other medical professionals may tell individuals that they have to lose weight, when to do so would reflect on the extended family household and total community of which that individual is an integral part.

The love of food and eating is part of that community sociality. The food itself tastes good, and is as highly desirable as is the pleasure of being with other household members. The local foods, such as taro, yams, kape and breadfruit are high in fibre, low in fat, low in salt and low in sugar (see Pollock 1992 for nutritional analyses of these Pacific foods). They are thus deemed beneficial by outside i.e. nutrition standards today. So why should they eat less of these? It is not clear that the diet is contributing to the hypertension that affects perhaps ten per cent of the island population. And there was no incidence of diabetes recorded in these islands during the past five years. The so-called harmful foods, those high in fat, sugar and salt and low in fibre characterise the diet of their Noumea relatives. But there too their choice is restricted by lack of cash. Unfortunately in Noumea the local starch foods when available in the market are very costly, and thus not a viable alternative to rice or bread sticks for many Polynesian families with little or no income. So the low fibre diet, with high sugar intake may be contributing to the increasing cases of diabetes that are showing up in this population.

Activities are also a notable difference between the island and the urban communities, especially for the men. The men must maintain their plantations in Wallis and Futuna if their families are to hold their place in the community. That place is marked by large bodies and generosity with food. But in Noumea a man is lucky if he can get a job that pays for the rice and sugar and coffee, and it may not last for more than six months. Then he must sit and wait for another job. The so-called 'hard' life of the plantation worker contrasts with the 'easy' life of the urban man, but the consequences are a new form of obesity for men, and some suffering diabetes as a result.

Food and lifestyle are changing in many Pacific societies. For people of Wallis and Futuna there is a very marked difference between their low income but high dependence on local food, and in Noumea their relatives' high dependence on cash for purchasing food. But the bond still remains in a shared love of food, and community honour expressed in large body size.

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