BRINGING EVERYDAY LIFE INTO THE STUDY OF 'LIFESTYLE DISEASES':

LESSONS FROM AN ETHNOGRAPHIC INVESTIGATION OF OBESITY EMERGENCE IN NAURU

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My undergraduate studies were in the biomedical sciences. I came to medical anthropology in Oxford on the basis of two separate recommendations. My late mentor, Adam Locket, had studied in Oxford and knew how much I would love the inspirational learning environment and interdisciplinary nature of college life. My supervisor, Maciej Henneberg, saw my curiosity about questions relating to health that were difficult to address using the scientific method and encouraged me to speak to his colleague, Stanley Ulijaszek, about medical anthropology. I completed the MPhil in Medical Anthropology in 2007-09 and commenced my DPhil immediately thereafter, initially under the supervision of Stanley Ulijaszek with a focus on political ecological and biocultural approaches to obesity in Nauru, and later under the co-supervision of Elisabeth Hsu, who encouraged a critical-interpretive and sociocultural perspective.

Introduction

Over the past sixty years, levels of obesity and associated non-communicable diseases (NCDs), such as cardiovascular disease, diabetes mellitus and some cancers – commonly referred to as 'lifestyle diseases' – have rapidly increased in many of the world's populations. NCDs now account for 60% of all deaths worldwide – double the amount attributable to infectious diseases (Daar et al. 2007: 494) – and for seven out of every ten deaths in the Asia-Pacific region (Gill 2006: 10). The medicalization of fatness is also of concern, as the medical category of obesity has been associated with stigma, discrimination and inequality (Brewis et al. 2011). Obesity thus has measurable impacts on health outcomes, quality of life and social relationships, in addition to public health expenditure and life expectancy.

In her review of anthropological and ethnographic research on NCDs, Whyte (2012: 64) notes that, while there have been important contributions from anthropology, the majority of this research has been conducted in high-income countries and has focused on diabetes, cancer and cardiovascular conditions. This focus broadly reflects the original epidemiological distribution of these 'lifestyle diseases', implying a close association between medical anthropological attention and biomedical trends. At the same time, an anthropological focus on NCDs in high-income countries arguably reflects the extent to which they are of economic concern to such countries, and not simply matters of human health and well-being. However, while rates of obesity have tripled in developing countries alone over the last twenty years (Hossain et al. 2007), and evidence continues to support a strong association between obesity and NCDs (Popkin et al. 2012), there have been few critical-interpretive medical anthropological investigations of obesity so far. For example, none are mentioned in Whyte's review.

Some of the earliest epidemiological associations between obesity and NCDs stemmed from research conducted in the Pacific island nation of Nauru, where I spent two months in 2007. Subsequently I completed ten months of ethnographic fieldwork in Nauru in 2010-11, which included participant observation, carrying out over fifty life-history narratives with people of all ages, conducting archive searches and gathering diverse items of material culture, including photographs and national newsletters. Nauru was once described as a place where one 'very seldom see[s] a badly proportioned man or woman', and Nauruans were considered 'a fine race of people... [with] very little disease amongst them... [and of] fine physique' (Stephen 1917: 5). However, obesity emerged rapidly in Nauru in the second half of the twentieth century. The recorded prevalence of diabetes in the Nauruan

population rose from 2% to over 30% during a fifteen-year period in the 1960s and 1970s (e.g. Hodge et al. 1995). This post-World War II period was characterised by a reconfiguration of governance structures, political independence in 1968, and unprecedented economic growth resulting from lucrative phosphate mining, which was, until 1970, under the control of the colonial authorities. Obesity emergence in Nauru has previously been broadly attributed to genetic predisposition combined with modernization-related lifestyle change in the second half of the twentieth century (e.g. Hodge et al. 1995, Popkin 1999).

In this article, I argue that the attribution of obesity to individual lifestyle change masks fundamental social, economic and environmental changes that occurred over the same period of time in Nauru. I begin by reviewing the theoretical development of the concept of 'lifestyle'. I then consider how lifestyle is understood in research relating to obesity in Nauru, showing that the concept is widely used but poorly defined. I draw on ethnographic findings from Nauru to illustrate how a sociocultural understanding of lifestyle – or everyday ways of life – captures details that are overlooked in epidemiological or public health constructs of lifestyle. This research therefore brings new anthropological perspectives into obesity research.

'Lifestyle' in theory

According to Coreil et al. (1985), the origins of the concept of lifestyle can be traced to the social sciences and the works of Marx, Veblen and Weber. Marx argued that patterns of life in different social groups are associated with income and occupation. These are underpinned by historical and contemporary systems of economic production, and by a division of labour within and between social groups, which are not necessarily delineated by political or

geographical boundaries. Veblen broadened Marx's concept of lifestyle by demonstrating that it is also motivated by non-economic factors such as status-seeking. Both of these influenced Weber, who drew links between collective lifestyles and social honour or status and 'developed a holistic conceptualisation of life style founded in joint consideration of income, occupation, education, and status' (Coreil et al. 1985: 425). This concept of 'lifestyle' served to integrate multiple domains of life with the theoretical perspectives that described them. Early applications of the term were diverse but shared common features, portraying human ways of life as dynamic, holistic and relational (Ansbacher 1967).

As the term was adopted into sociomedical and health disciplines in the early 1970s, it was predominantly used to refer to specific behaviours identified as risk factors (Coreil et al. 1985). Such 'lifestyle factors' could be investigated and addressed independently of one another, but they were largely devoid of context and were treated as discrete, ahistorical units rather than as overlapping and iteratively interacting parts of a whole. The predominance of the behaviourist lifestyle concept was not simply a reflection of a theoretical turn towards positivism; notions of healthy behaviours and fitness were also amplified by popular culture at this time (ibid.). While the notion of lifestyle underscored by social relations persisted in some social sciences through the 1980s, the predominant interpretation of lifestyle is still one rooted in biological reductionism. It has recently been argued that the term should be avoided in public health because it leads to a narrow focus on people's individual behaviours alone (Vallgårda 2011).

'Lifestyle' in practice

While the term 'lifestyle' is rarely explicitly defined, focusing on how it is applied reveals three predominant approaches to it in the study of obesity in Nauru. First, in some cases lifestyle is considered to be the locus of change, yet it remains largely unresearched. Explanatory theories proposed by Zimmet (1982), for example, link political ecological forces such as globalization, increasing affluence, modernization or changes in the world food system to the emergence of obesity at the population level. Research linking any of these large-scale processes with demographic health outcomes treats people and their everyday lives as 'black boxes' (as described by Susser and Susser 1996). That is, the statistical correlation between exposure to an ecological factor and a later health outcome is used to determine health risk. Intervening pathways – in this case, lifestyle – are often either unelaborated or interpolated.

Lifestyle change in Nauru is inferred, for instance, from the physiological association between obesity and diet. Hodge *et al.* (1995) suggested that a nutritional transition to a diet of low-quality imported foods occurred at around the same time as obesity emergence. However, historical analysis suggests that the people of Nauru have eaten predominantly imported foods since the early 1900s. Hambruch (1915: 103-6) praised European colonial powers for introducing a number of foodstuffs – including fruits and vegetables, pigs, corned beef, sugar, rice and flour – to Nauru by the late 1800s. Imported foods, especially industrially processed white rice, sugar, fish and tinned meat, continued to predominate in the 1950s (Kirk 1957) and remain central to Nauruan diets today. Historical dietary trends do not necessarily align with those inferred based on theories of obesity emergence.

Lifestyle change is also inferred from the epidemiological association between obesity patterns in Nauru and increasing affluence following political independence in 1968. Diamond (2003), for instance, suggests that lifestyle change explains this association. He posits that increasing wealth led to obesity because it permitted Nauruans to stop working and to adopt sedentary lifestyles, which are in turn linked to obesity. He does not cite evidence for this association, and limited social data about Nauruan ways of life existed at the time, so this conclusion presumably relies on his assumption that Nauruan people 'disliked working' (ibid.: 600) and that they used money to stop doing it. Such interpolations do not align with my findings, even if 'work' is narrowly understood as 'salaried work'. Employment rates on Nauru in the colonial era *were* low: people in Nauru were actively dissuaded from working by the colonial authorities, whose correspondence stored on microform in the National Library of Australia emphasises their desire to deter significant political progress. In the post-colonial period, however, the majority of people I met sought paid employment, even if it meant dropping out of school to do so. Secondary education attendance decreased significantly, a 'recurring issue' to which this was attributed being the 'apparent breakdown of the family unit and loss of control of many parents over their children' (USP Nauru 1994: 4-5). One reason for this was that the nation's considerable mining income was paid to the land-owning members of society (generally older people) and was distributed by them. Over time, less and less money was distributed to the family, so non-landowners, especially young people who saw their parents and friends spending freely, sought employment in order to earn cash of their own. Thus inferred lifestyle changes were used to imply increasing laziness. In contrast, my ethnographic findings highlight a

significant reconfiguring of exchange relations, hierarchies of power, status, educational attainment and social connections at this time.

Secondly, in other research, lifestyle is presented as fixed over time and therefore as irrelevant for understanding changing health patterns. For example, the disproportionately high rates of obesity in Nauru emerged at a time of significant engagement with the global economic system. One explanation for this coincidence proposed by Joffe and Zimmet (1998) draws on Neel's (1962) 'thrifty genotype' hypothesis. Joffe and Zimmet propose that in harsh environments, particularly isolated island environments, selective advantage would have been conferred on people whose bodies were more efficient at storing energy as fat. In modern settings where there is an abundance of food, these 'thrifty' bodies become obese. Yet ethnographic data suggest that the social relations, knowledge and technologies that underpin both food storage in the community and regional trade are as important to consider as genetic mechanisms for food storage in the body. For example, in the pre-colonial period the people of Nauru had sophisticated methods of food preservation; pandanus flour and fruit could be stored for years in people's homes (Kayser 1934). In colonial times, imported foods would be stored for weeks in family houses. Since engagement with the global economic system in the late 1800s, and particularly since strict colonial restrictions were lifted and expendable incomes increased following political independence, less and less food has been stored in homes. Instead, increasing amounts have been purchased on demand, and increasingly in individually sized servings, from local shops and restaurants. This has led to the current situation where, without trusted systems of trade, storage and delayed distribution, the people of Nauru are arguably more susceptible to ecological uncertainty than they were in the past.

A third predominant approach to lifestyle as it relates to obesity in Nauru is associated with the biomedical framing of obesity as an energy imbalance: that is, people eat and drink more calories over time than they expend. This biomedical behaviourist paradigm has, to date, been implicit in the majority of research relating to obesity. Thus, where obesity and NCDs are broadly attributed to 'dietary and lifestyle changes' in a population (Joint WHO/FAO Expert Consultation 2003: 1), lifestyle is reduced to disparate 'factors', that is, specific behaviours of eating/drinking, smoking, exercising and sleeping. Lifestyle factors that can be converted into calorific terms come to the fore in obesity research. Yet such a conceptual abstraction – for example, considering a meal in terms of nutrients and calories – reduces subjectively lived experience to objectively quantifiable data, thus privileging some forms of evidence over others.

The positivist interpretation of lifestyle as a series of discrete factors or individual behaviours disengages everyday activities from the broader sociocultural, economic, historical and political contexts in which these practices are situated. A long history of colonial and post-colonial dominance and exploitation undoubtedly continues to affect everyday ways of life in Nauru. The country's relatively low productivity and limited power in international trade negotiations also play a role in so far as they impact on food availability in Nauru (Viviani 1970, Weeramantry 1992). I do not address these environmental-level factors further in the present paper. As Mintz (1985) famously illustrated in his study of sugar, it is in the iterative and dynamic intersection between these broader contexts and local or individual-level experience that meaning, practices and patterns of culture are generated. Such patterns are shared by a social (or status) group and together form a lifestyle. Coreil et al. argue that 'in essence, life style is a sociocultural concept, but one that has evolved

primarily outside the field of anthropology' (1985: 432). To date, such sociocultural understandings of lifestyle have not generally been investigated in obesity-related research in Nauru, whether anthropologically or otherwise.

(Re)defining lifestyle and the importance of social relations

Ethnographic findings relating to obesity in Nauru underscore the centrality of social relations in the production of lifestyle and lifestyle change. During the early part of my fieldwork I was privileged to meet Ruby Thoma, a Nauruan woman who had trained as a nurse and midwife in Australia and New Zealand respectively. In the 1990s she was responsible for setting up the Department of Public Health in Nauru in response to continued high rates of NCDs and obesity on the island. One evening, Ruby and I were chatting about her experience of obesity-reduction initiatives. She chuckled, remembering that one of the first tasks of the new department was to carry out a health survey. Among other things, they had asked people to record their daily activities in a diary. One lady wrote that she went and visited one person, then another, and suddenly the day was over! People had been surprised when they looked at what they had recorded in their diaries, but they also asked Ruby, 'If all my time is full of socialising, then where am I supposed to fit anything else?!' The government was clearly asking people to do more – diet and exercise, for example – than they had time to do. Initial survey findings like this were discarded as 'confounding data' and so have never been interrogated further.

Surveys that discount social exchanges as irrelevant foreground sedentarism and poor diet instead. The resultant obesity-reduction initiatives on Nauru have been based on educating people to follow 'healthy lifestyles', where lifestyles are narrowly understood as

comprising diet and physical activity. Key messages, which are repeated in classrooms and through public health outreach initiatives, include: drink water, eat fruits and vegetables, exercise daily, and avoid alcohol and cigarettes. These messages focus on the individual as the locus of lifestyle and health change, implying that the individual is to blame if s/he does not follow the advice given. At the same time, these initiatives discourage 'sedentary' activities such as sitting and chatting. In Nauru, such socializing (often referred to as 'yarning') is central to working together as a close community, to building and maintaining trust within and between generations, and to reducing misunderstandings that might otherwise be propagated through 'Naurumours'. Through yarning, different perspectives can be shared and experienced, and consensus and compromise achieved.

If lifestyle is instead understood as a sociocultural concept, social relations are foregrounded instead of individual responsibility. This is what happens in everyday life in Nauru, especially in relation to health and health behaviour. A term commonly used to translate 'healthy' into the Nauruan language is *omo tsimorum*. *Omo* (which is often shortened to *mo* in speech) tends to be translated as 'good'. Although *tsimorum* is a feeling that is difficult to express in words, different individuals translated it as 'life', 'something living', 'well-being', 'if you're coming out of a sickness', 'like, you feel good' or 'it was fun, we had fun, we felt good doing it', and 'it depends on the sentence, the context of what you're talking about'. Importantly, *mo tsimorum* does not simply arise from biomedically quantifiable healthfulness or the absence of disease or illness. Such notions of feeling good, feeling well and alive, or living a 'good life' are also inherently linked to the state of a person's social relationships. A person can feel healthy, for example, if s/he has positive interactions with family and friends. This is reminiscent of neurobiological research

reviewed by McFadden, who notes that 'the "warm glow" attached to bonding and trust in family and social groups seems to be tied to reward pathways in the limbic system that we experience as pleasure' (2013: 37). Conversely, while an unhealthy feeling – *baka tsimorum* (literally 'bad life', or feeling bad or ill) – might be elicited by a biological factor such as having an ear infection,[1] it might equally result from friction in social relationships or from feeling one has been taken advantage of. Someone would arrive at work feeling sick, for instance, and it would transpire that they had had an argument with a household member.

Seeking to feel healthy, *mo tsimorum*, means seeking what the people of Nauru frequently refer to as 'satisfaction', a feeling that might best be described as fullness, pleasure or enjoyment. This feeling is often expressed with the term *pweda*, a verb literally meaning to swell or distend (*pwe* is an adjective understood to mean 'overweight' or 'large'). *Pweda*, satisfaction and feeling healthy can be derived from a variety of activities, including sharing meals with other people, having sex or being pregnant. It is also associated with the pleasurable fullness that follows a big meal, particularly one containing a large amount of white rice. *Pweda* thus appears to be associated with the tightening of social networks and partaking in social relationships, as much as it is with eating a large quantity of food.

This inseparability of health and social exchanges is evident in local interpretations of public health messages concerning obesity and NCDs. The unhealthy lifestyle factors that Nauruan school students listed on posters they had prepared for World Diabetes Day in 2011included sweets and cigarettes, but also 'stop nagging (jealousy) makes your heart crazy' and 'mama don't leave me alone please'. A healthy lifestyle, on the other hand, involved being an 'active role model in your community' and 'no worries – be happy'

[1] Another term that might be used is *earak*, which tends to translate as 'disease'.

(Figure 1). The students' posters illustrated both the success of local public health education and their understanding that a healthy lifestyle cannot be reduced to public health alone.

Figure 1. A poster made by school students for World Diabetes Day, Nauru, 2011.

Social relationships in Nauru have been dramatically reconfigured over the past century, especially as the political and economic landscape changed following World War II. Within Nauru, ways of life and daily rhythms – including patterns of eating, activity and sleep – are directly and indirectly linked to family and community relationships. Taking food habits as an example, in the 1930s Wedgewood described clear social norms that governed food sharing:

> Formerly, if a man were walking along a path, carrying coconuts or fish or other kinds of food, he would feel himself obliged to give away perhaps the major part of it should he be asked for some... (Wedgewood 1936: 14)

Such sharing contributed to social hierarchies and networks of obligation to give and receive across the community that were reinforced through ongoing exchanges. Meals were shared collectively by family groups. Similarly today, some people expect others to give food away

freely, claiming that members of the community ought to share. They are pleased when they do and angry when they do not.

But there are other people who feel that each person should contribute equally – through labour or money, for example – for their fair share of food. Some do not understand why they should share with others who are wealthier but who choose to spend their money on other things. Wealthier people, even within families, claim they have worked hard for their money and should not have to give free food to others; in this way, material success may be related to social isolation. Fairness is an ambiguous concept. Debates around it in Nauru as they relate to food result in interpersonal friction, stress, individualized eating (which is facilitated by individually packaged food products) and decreased food sharing. All of this suggests that feeling good, the good life, fullness, satisfaction and *pweda* depend on a sociality of sharing. Social relations, as well as changes to them, play a role in everyday food habits. Though how these observed lifestyle changes might contribute to obesity is not well understood.

Discussion

The framing of obesity as a lifestyle disease invites anthropological attention. While lifestyle is widely applied to obesity both academically and in everyday language, no single discipline appears to have clearly defined the term. Participant observation is a method that lends itself well to investigating lifestyle at the community level. As a participant in Nauru, the choices I made in order to navigate the social space were simultaneously the choices that shaped my lifestyle and factors therein: enjoying a certain food, for instance, was not a hedonistic or

egotistical activity, but one that allowed me to belong. As an observer, I was able to place these experiences in their broader social, political, environmental and historical contexts.

Medical anthropologists have long argued that, ethnographically, there is not necessarily a distinction between health, emotional and social problems. In Nauru, for example, good health or the good life (*mo tsimorum*) is a feeling that can be derived from both good social relationships and the absence of biomedical disease. Social relations and interdependence are central to lifestyle patterns. At the same time, social relations have the potential to change rapidly, as the example of food sharing in Nauru illustrates. Lifestyle is related to changing social and economic practices at the local level, as well as to the historical and iterative links between these and global-level political ecological forces. With this in mind, understanding lifestyle in its broadest sense is arguably as important for understanding obesity emergence as investigating discrete 'lifestyle factors'. However, to date anthropological research relating to obesity has predominantly focused on individual diet and physical activity.

In this article, I have critiqued the behaviourist and positivist framing of lifestyle in research relating to obesity. I present ethnographic evidence demonstrating that human health as it relates to obesity is dynamic and relational rather than mechanistic or deterministic. I argue for the re-appropriation of lifestyle as a sociocultural concept underpinned by modes of production, relations of power, social exchanges, social values, education and status-seeking. If it is carefully defined and accurately applied, the concept of lifestyle has the potential to conceptually unify and contextualize existing disparate aspects of obesity-related research (or research on 'lifestyle factors'), as well as the potential to bring new sociocultural perspectives to such research.

ACKNOWLEDGEMENTS

Elisabeth Hsu, Stanley Ulijaszek and Caroline Potter provided valuable feedback, for which I thank them. I also thank Kyle Turner for his helpful comments. I am grateful for the financial support I received from the Clarendon Fund and St Cross College for my MPhil studies, and from the Monash Foundation and St Edmund Hall, who generously supported my DPhil research. I remain indebted to the people of Nauru for their continued generosity, support and expertise.

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