Factors Influencing Food Choice in an Australian Aboriginal Community

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Abstract
We explored with Aboriginal adults living in a remote Australian community the social context of food choice and factors perceived to shape food choice. An ethnographic approach of prolonged community engagement over 3 years was augmented by interviews. Our findings revealed that knowledge, health, and resources supporting food choice were considered “out of balance,” and this imbalance was seen to manifest in a Western-imposed diet lacking variety and overrelying on familiar staples. Participants felt ill-equipped to emulate the traditional pattern of knowledge transfer through passing food-related wisdom to younger generations. The traditional food system was considered key to providing the framework for learning about the contemporary food environment. Practitioners seeking to improve diet and health outcomes for this population should attend to past and present contexts of food in nutrition education, support the educative role of caregivers, address the high cost of food, and support access to traditional foods.

Keywords
Aboriginal people, Australia; health and well-being; nutrition / malnutrition; research, qualitative

The diet of Indigenous people in Northern Australia has changed drastically since European invasion and settlement in the late 1800s. For many people, this has occurred as recently as the mid-20th Century. During the tens of thousands of years prior to this period, traditional diets were derived from uncultivated plant foods and nondomesticated animals, aquatic foods, and insects. These diets were rich in fiber, slowly digested carbohydrates, high-quality protein, and long-chain polyunsaturated fats (Naughton, O'Dea, & Sinclair, 1986; O'Dea, Whiten, Altmann, Strickland, & Oftedal, 1991). This healthy, nutrient-dense diet has since been replaced by habitually high intakes of refined cereals, added sugars, saturated fats, and salt (Brimblecombe, Liddle, & O'Dea, 2012; Lee, O'Dea, & Mathews, 1994): a dietary transition facilitated by the provision of predominantly flour and sugar rations at church missions and government settlements (Lee, 1996) and largely maintained through social disadvantage.

Whereas traditional diets of Indigenous Australians and other Indigenous populations protected against preventable chronic disease (Burgess, Mileran, & Bailie, 2008; Kuhnlein, 1995; O’Dea, 1984; O’Dea, Spargo, & Akerman, 1980; Receveur & Kuhnlein, 1998), the contemporary diet is now recognized as a major risk factor for type 2 diabetes, vascular diseases, and kidney failure, all of which now occur at a young age and in epidemic proportions among Indigenous Australians (Australian Bureau of Statistics, & Australian Institute of Health and Welfare, 2010; Vos, Barker, Begg, Stanley, & Lopez, 2009).

Food choice is a multidetermined, situation-dependent phenomenon (Rozin, 2005). Four contexts in which food is influenced have been described: (a) the microenvironment of institutions and groups that most immediately and directly interact with an individual, such as family, peers, and school; (b) the mesoenvironment of the connections between contexts that influence the individual, such as the relationship between the family and school; (c) the exoenvironment of the links between a social setting in which the individual does not have an active role and their immediate context, such as the influence of a
parent’s workplace experience on the parent–child interaction; and (d) the macroenvironment of the culture within which the individual lives, including cultural norms, and economic and political systems (Bronfenbrenner, 1979). Factors influencing diet and nutrition at each of these four levels have been described in commentaries on the poor nutrition of Indigenous Australians as well as in the anthropological literature and reports on epidemiological and community-specific case studies.

For the most part, Australian public health practitioners have described the array of physical factors within the macroenvironment that influences access to healthy food, particularly food cost, availability, and quality (National Aboriginal and Torres Strait Islander Nutrition Working Party, 2000; National Health and Medical Research Council, 2000; North Australia Nutrition Group, 2003). Consequently, practitioners working to facilitate nutrition improvement for Aboriginal people in remote Australia have, since the assimilation era in the 1950s, focused on enhancing the food supply in stores and raising awareness of recommended dietary guidelines (Council of Australian Governments, 2009; Northern Territory Government, 2001). There has been scant exploration of Aboriginal perspectives related to food choice and the interaction of individuals with their food environments. In particular, the influence of the historical and cultural context in which food choices are made and the social meanings of food and food choice within the contemporary environment are poorly understood (Rapport, Peters, Huff-Corzine, & Downey, 1992).

In a qualitative investigation of a group of urban Aboriginal people in the city of Melbourne, Thompson and Gifford (2000) found food to represent powerful symbolic connections to belonging and sense of place and the past. The failure of health professionals to consider the cultural meanings of food and their unique social context was perceived by the Aboriginal participants in the study by Thompson and Gifford as a key hindrance to the effectiveness of public health initiatives to modify food and physical activity.

Accounts from anthropologists and ethnographers highlight the fact that, for the Indigenous hunter-gatherer, food was integrated into all aspects of life (Meehan, 1982; Reid, 1982). It provided links to country and afforded a sense of time, place, identity, and responsibility; food was a central tool and theme in teaching and knowledge acquisition and played a major role in society and ceremony. This relationship with food was irrevocably disrupted with colonization, severely affecting the lives of people alive today, because the aim was to “civilize and Christianize” through Aboriginal people assimilating the values and beliefs of Anglo-Celtic Australian society. Controlling the diet of Aboriginal people was central to the policies of assimilation (Rowse, 1998). This proceeded through the colonizers providing rations to encourage the institution of people on government settlements and missions and, later, establishing communal kitchens and dining halls.

The hunting and collecting of traditional food that had been practiced for millennia was actively discouraged by authorities and considered primitive and undisciplined, with no place in advancing Aboriginal society. Despite this, hunting and collecting continues today. The way in which contemporary eating behavior of Aboriginal people is influenced by the traditional food system is not known; attention, however, has been drawn to the potential social, emotional, and health implications for Indigenous people of living between two cultural worlds (Burgess et al., 2008; McCoy, 2009).

In the study described in this article, we used qualitative research methods among a group of Aboriginal adults living in a remote Australian community to gather detailed accounts of people’s views on food. We aimed to build a deeper understanding of the meaning of the traditional Aboriginal diet and the contemporary food supply through people’s views and experiences in relation to food-related knowledge, attitudes, and choice.

**Methods**

**Study Site**

We conducted this study in the Northern Territory of Australia, where Indigenous people living in discrete remote communities make up approximately 30% of the population (Australian Bureau of Statistics, 2010). The study site was a large community more than 500 km from the major urban center of Darwin. The study community was established as a church mission during World War II. At its outset, the mission received government funding to provide rations for residents until 1964, when the ration system was dismantled and welfare payments introduced.

At the time of the study, the population was approximately 1,500 (Australian Bureau of Statistics, 2003), comprising more than 20 different language groups, with English more often the third or fourth language. The community infrastructure included a primary store and take-away food outlet, school, health center, church, arts center, and childcare center. Visiting personnel provided a range of government services.

**Study Design**

To gather and contextualize participants’ perspectives and experiences related to food within the traditional and
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Table 1. Factors Influencing the Nutrition of Aboriginal Australians Living in Remote Communities, as Identified in the Literature. 

contemporary food systems, we used a variety of qualitative data collection methods, modifying and expanding our data sources as we sought to gain the best understanding of the issue. Overall, we employed an ethnographic approach, with the first author immersing herself in the community over extended periods from 2002 to 2005, recording field notes in a study journal. Throughout the research process, a group of senior men and women associated with a community-based health research organization acted as an Indigenous mentor group. Through ongoing consultation, this group guided the research process and had input into culturally acceptable modes of data collection, transcription, translation, and interpretation. The second author was a member of this group and assisted with selecting study participants, setting up interviews, translating data from the local language when required, and adding to data interpretation and community feedback. We also contracted an Indigenous interpreter and translator to assist with translation of in-depth interviews conducted with community elders.

Within the overall ethnographic observations, key community informants were invited to contribute more information, initially through semistructured interviews. We based selection of community members for these interviews on the kinship system. The Indigenous mentor group and Indigenous coresearcher identified one male and one female member from each of the related language groups and invited them to take part. Sixteen people (8 men, 8 women) within an approximate age range of 35 to 60 years were selected for interview.

All semistructured interviews followed key topic items developed through review of the relevant literature and discussion with the Indigenous mentor group and coresearchers. We used broad topics to allow new themes and issues to emerge for exploration during these and subsequent interviews. Our four initial interview topics were past or traditional diet; foods currently eaten, and why; food and health; and barriers and enablers of healthy eating. When we could see a need to explore further, we carried out family and group discussions as extensions of the in-depth interviews, often within the same time period. We based the discussions on the same broad topics but also explored new themes emerging from the interviews. We identified potential families and workplaces for the discussions through purposive sampling to include respondents ranging widely in age, gender, social position, and occupation. Actual participation in these groups then depended on interest and availability at the time of the interview.

We conducted interviews at a time and place that suited the participant. In most cases, this was on the person’s property. The first and second authors cofacilitated all interviews and group discussions. The first author led interviews whenever English was predominantly spoken; the second author led discussion groups that were primarily spoken in an Aboriginal language. Data from informal discussions with community members were recorded in the study journal by the first author and used to explore concepts and themes. With consent and whenever practical, interviews and group discussions were audiorecorded and English-based interviews transcribed by the first authors. On four occasions, the authors and a participant cooked a meal together in the participant’s home to provide richer insights into the meaning and significance of the two food systems. During other discussions, food was often shared.

**Data Analysis**

We carried out thematic analysis iteratively with data collection. Following each interview, the first and second authors examined emerging themes and new areas for exploration and, whenever possible, discussed the data with members of the Indigenous mentor group. Interviewing continued until themes repeatedly emerged and no new subject matter seemed to arise. During final analysis, the first author checked all data against themes to identify patterns and recurring regularities, and to identify data that contradicted or deviated from the themes. The first author listed all salient concepts as themes and subthemes. The Human Research Ethics Committee of the Northern Territory Department of Health and Menzies School of Health Research granted ethics approval and participants provided written or audiorecorded informed consent.

**Findings**

In total, 46 adults participated in an interview or discussion group. Of the 16 adults we selected for in-depth interview, 1 woman declined and 3 were not available; therefore, we interviewed 12 community members (8 men, 4 women). We also conducted six family group discussions, and two work-site group discussions (school and health center) were also conducted. In total, 22 adults participated in the six family group discussions; other family members were present to provide support but did not contribute. Twelve staff members participated in the two work-site group discussions.

Four themes emerged from the data collected: (a) a sense of balance during the mission era, (b) knowledge out of balance, (c) health out of balance, and (d) resources out of balance (see Table 2). Throughout the commentaries of individuals and groups, the overarching concept of “balance” or, more specifically, a diet, food supply, or life “out of balance” was identified as a key notion related to current food and food choice. Thompson and Gifford (2000) noted a similar view of balance among Aboriginal
people living in an urban setting. The notion of balance participants referred to symbolized a state of well-being and harmony that resulted from living in a reciprocal relationship with the physical and social environment that enabled cultural and family obligations to be respected and fulfilled. Prior to the mission, “life in balance” was maintained over many thousands of years through a system that was governed by the laws of traditional society that ensured equilibrium between the people and their environment. This is contrary to the Western ideology of subjugation of the environment, in which balance is far from being an ideal and harmony with the land is rare. From this central concept of balance, four major themes and 10 subthemes were identified (Table 2).

The first theme encompasses the participants’ reflections during the introduction of the contemporary food system, and a sense of relative balance between the long-established and the new. The following three themes encompass recurring food-related issues that often were dominant in discussions relating to and contrasting with the traditional diet and contemporary food supply. Disparities and shortfalls within one or more of these influences, namely knowledge, health, and resources, were seen as key in shaping food choice and eating. The state of balance in relation to each of these factors was perceived to have diminished over time since the establishment of the mission and was perceived to be a key determinant of people’s current health and well-being.

A Sense of Balance During the Mission Era

During the mission era (1940s to mid-1960s), traditional foods augmented the meager rations provided by way of government funding. The sense of a state of balance between the long-established and the new was illustrated by comments from two participants:

There were two different kinds of food at the same time; it was like a balanced diet kind of foods, one from the [traditional] side and the other from the [introduced] side, that’s how we lived on.

They were afraid of the whitefellas [White man], afraid of what to eat. . . . When they first tasted it, it was like they were only testing it, what kind of food the whitefellas ate, but some felt that that food did suit them. From then on the people ate two different kinds of food, it was food that the whitefellas introduced and also our natural foods. They wanted to go on eating these foods [pause] yes, yes [pause], just to be sure that the traditional foods are always here for us.

As illustrated by these quotes, the older people interviewed had listened to the stories of their parents and ancestors and lived through the era when traditional foods were consumed alongside imported foods. In general, the older people interviewed felt that during the mission era the two existing food systems were in balance: The supply of traditional foods was complemented by an increasing access to a new food supply. This novel food supply was, however, often limited and variable because of delivery schedules, scant resources, and strict controls governing food distribution such as rationing:

He [mission superintendent] would give us enough. Just a handful of everything and that was it. What was given we ate, and went, and we didn’t come back to get more. We went away and collected wild honey and all those natural foods. Maybe we have forgotten all the bush potatoes, yams, and so on. . . . We only had a little bit, and little bit for each day.

Whereas the earliest days of colonization enabled what participants referred to as an essential coexistence of two food systems, older participants noted new foods becoming increasingly prevalent with the rise of the trade store, more efficient transport routes, and the existence of a cash economy. These new foods, referred to by participants as “the newcomers,” over time made up the prevailing food system. Less obvious to older participants was that the early sugar–flour–tea–tobacco rations had now come to be regarded as having pioneered a taste for and reliance on these items (Lee, 1996). In contrast, participants implied that in the past sugar–flour–tea had supplemented rather than dominated people’s diets and were consumed within a context of traditional foods and familiar social and cultural structures. The context, therefore, in which these foods were consumed was in balance. In this sense, these foods were not associated with ill health or considered unhealthy in the past.
The yielding of the traditional food system to a new, imposed food structure was not only considered the cause of poor diet and ill health but was also associated by a number of participants with a sense of a “life out of balance,” and with many social issues visible in the community such as low employment, low school attendance, gambling, and substance misuse. In this context, living with an introduced food system was considered to impact on every aspect of life.

**Knowledge Out of Balance**

This theme refers to the difficulty participants experienced relating to an introduced food system that was detached from their environment and spiritual realm. This disconnect was perceived to create an imbalance between the great depth of knowledge related to the long-established and the perceived scant knowledge of the new. Parents felt disempowered, lacking opportunities to teach their children about the traditional food system as well as the unknown new. Participants recounted the traditional social and cultural context of learning about food and how children learned to eat the foods their parents ate. Knowledge was continually passed on to children about the seasons, how to collect and hunt foods, how to prepare foods, and how to, in the words of one participant, “that the foods would always be there for them.” Children remained under the watchful eye of their parents until they could recognize foods themselves.

Participants implied that for many families during the mission era, access to traditional foods was still required, and parents retained the responsibility to teach their children the skills of gathering and hunting for food, and the social and cultural obligations associated with traditional food. Although colonization marked the beginning of the White man’s desire to provide education in the classroom, participants referred to the traditional education system and the experience of growing up learning from their parents, through regularly accompanying them when hunting and gathering:

Our mothers had us in their bellies, they bore us, they grew us until we grew up. And they taught us for all the bush foods like ganguri [yam], duyang [tuber, Ipomoea graminea R. Br], Riny’tjangu [tuber, Eriosema chinense Vogel]... and so on. We ate as we went along, watching them and learning from them. They gathered what was in the bush and what was in the rainforests, they taught us. We didn’t eat on our own but what they pounded and chewed was then given to us, then we would eat. That was when we were still toddlers up till when we started learning how to walk. Then we were trained to eat on our own and to see the bush foods on our own, whatever our mothers would have collected for the day. We learned from them as we watched them. Participants emphasized the strong influence of the family environment on the development of the food knowledge, food preference, and eating of children. In particular, the roles of the mother and grandmother were highlighted. (“Mother” in this context can also refer to kin who have a nonbiological mother–child relationship.) The important influence of individuals within the proximal microsetting of especially the maternal role and family environment on children’s present and future food choices and patterns is supported by other studies that underscore the pivotal function of child–parent/kin interactions and role modeling (Birch, 1999; Campbell & Crawford, 2001). The impact of television viewing and the influence of media were also mentioned by some participants as being of particular relevance to the contemporary food system.

During most discourses related to the traditional food system, participants demonstrated deep and intricate knowledge that underpinned daily food choice. For example, one participant recalled that the time to harvest a food was determined according to the winds, the tides, the lunar cycle and star formations, the flowering of particular plant species, and other signs learned by Aboriginal people over generations through stories, songs, dance, and experience. Strict laws also governed food procurement, preparation, and distribution. Another participant referred to stories based on traditional foods that told of the consequences of overeating or being greedy with food, providing further learning about eating and life in general. Participants shared a common perspective that knowledge of the traditional food system made food choices within this system seem simple.

Based on this complex, integrated knowledge of their traditional food system that had evolved and been communicated over countless generations, some participants assumed non-Aboriginal people to have a similar comprehensive understanding of their own food system. They perceived that knowledge related to such things as food origin, preparation method, and seasonal availability enabled non-Aboriginal people to live in balance with their food environment and thereby make informed food choices. In contrast, the participants generally felt that they lacked knowledge and understanding of the introduced food system and that, without this knowhow, the act of making an informed food choice was complicated:

[Our] foods, we go by season, what [food] is good for that season. Like [food] from the shop we don’t go by season, we only walk in and buy what things we want. We get them, but sometimes we don’t know, for picking up meat, or chicken. We don’t know which date that chicken got killed and supplied to the shop, we don’t look at the month, which month—yes—some non-Aboriginal people they are clever, they walk in and get [food] and they look at the dates, [and] buy. Us, sometimes we don’t—never grew up on that system,
we just walk in, we get them, what we want, and then go buy ‘em.

As illustrated in the following quote, one participant referred to the nutrient characteristics of food, suggesting that this was an important determinant of food choice for non-Aboriginal people:

And the [non-Aboriginal] food they say, there’s too much sugar in this one, this is healthy food, this food will make you grow big and fat, this one has plenty of iron. They talk about protein, energy, saturated fat, sugars, carbohydrates, sodium, and potassium.

Poor knowledge and understanding of the contemporary food system was associated with a sense of reduced capacity to guide and nurture young people to make wise food choices. Many participants felt they were ill-equipped to pass on food-related wisdom to younger generations. Participants highlighted that the “classroom” where learning about food takes place had changed from a natural setting in which parents were integral to children’s learning to an approach that was demarcated and separated from parents and the greater environment. The position of parents and elders in the community as credible sources of knowledge, even with regard to introduced foods, was thought to be undermined by other sources of information such as the media and commercial advertising. One participant, who was a trained teacher, said she felt that these feelings were reinforced through learning environments having a disproportionate focus on Western practices and ideals.

The older participants worried about the changing attitudes of younger generations. They raised a number of issues that they believed challenged parents’ ability to guide their children’s intakes, including the appeal and easy availability of so many different foods perceived as tasty, sweet, and convenient, and the granted autonomy of children:

They reckon I am only telling them lie story. I always talk to my kids, have gapu [water] all the time, it is good for your body. . . . Even we tell them—because it is already advertised on TV [television]—that Coke is good or even Sprite or Fanta or Solo, stuff like that. It is already there, they’re already watching it on TV. That is why they go in and buy stuff like that.

These elders expressed concern that young people were “forgetting about” or “losing the taste” for traditional foods and had not had the opportunities to acquire the same level of knowledge about their traditional foods. Given the largely accepted view of the participants that traditional foods represented the backbone of society and were fundamental to achieving a life in balance, these issues were of particular concern for participants. Among Indigenous people of Canada, Kuhnlein, Receveur, and Chan (2001) reported similar concerns to those expressed by participants, that decreasing use of traditional food was associated with deteriorating health in communities and traditional cultural structure.

Three participants, with whom the authors discussed this at length, believed that knowledge of the traditional food system was an important foundation on which to form an understanding about the introduced food system, and a highly salient reference point for influencing eating. They felt it was essential to establish a base on which to build further knowledge related to all aspects of culture and life, and in this respect integrate the traditional food system into the school curriculum. Other authors have supported the view that, in contexts where two food systems exist, good knowledge of one domain can provide a solid foundation for understanding the second (Freeman, 1988; Sivaramakrishnan & Patel, 1993).

One dimension to learning that was emphasized by a number of participants was the concept of freedom to choose. This was expressed as people having the right to choose even if they or those around them were aware that the consequences of their decision might have ill effects. In the traditional Aboriginal view, children were also seen as a largely autonomous agent, free to eat when, where, and whatever they chose (Hamilton, 1981). Participants, however, also referred to food choices having been shaped through the ongoing teaching and role modeling of parents and kin. One participant, a health professional, believed health worker attempts to influence the behavior of a person who was not kin could be considered value-laden and offensive, or perceived as forcing or trying to exert power over another person. This presented a quandary for the health professional, who respected personal autonomy but had witnessed firsthand the consequences of health-damaging behavior and wished to improve the health of her community:

We can’t change, people have to change themselves, habit or, the cycle we see. You can’t change people buying Coke, fish and chips, that’s crazy. We can’t judge your life, what you want. No, we are talking about something that needs to change, not for us but for the generation coming.

**Health Out of Balance**

Whereas both Aboriginal and non-Aboriginal foods were said to have the potential to cause sickness or death, one participant expressed that, through an in-depth understanding of the traditional food system, people understood how to prevent illness and adversity, which gave them a sense of some control over their food system. In contrast, participants expressed a lack of confidence in
the introduced food system. They did not feel confident to use foods to prevent or alleviate illness or adversity; they felt they lacked knowledge and control. Throughout different dialogues, participants described contemporary foods as convenient and tasty, but also foreign, suspicious, and not well understood.

Some of these feelings were related to the unknown origins of the foods supplied and the fact that foods consumed were nearly always handled and prepared by others, whether in the community or by manufacturers: “Don’t know what’s happening in factory—sweat, might not wash hands, or allergic when eat, see symptoms—eating something not good for them. . . . Our system from long time ago, only eat fresh one—changes happening.”

Views expressed by participants that related to what constitutes healthy eating included concepts of balance, variety, natural fresh food, dietary control, inclusion of fruit and other plant foods, and the limiting of fatty and sweet foods. These notions of healthy eating emerged in narratives related to both the traditional and the introduced food systems, suggesting that people tended to define healthy food according to a similar set of standards, regardless of a food’s origin. Participants revealed how the imbalance of the traditional and introduced food systems manifested in an overreliance on highly refined carbohydrate foods, in contrast to the fresh and natural foods of the traditional food system.

The predominant notion of a lack of or lost balance between the two food systems was seen to have manifested in three ways: (a) too much reliance on purchased food rather than traditional foods, (b) too much reliance on preprepared takeaway foods, and (c) a lack of food variety compared with the traditional diet that included a balance between plant and animal foods, but had given way to an overreliance on flour and sugar. These foods introduced during the mission times were considered to have become the problem when relied on as staples. The contemporary purchased and largely processed food supply was seen as being associated with many of the illnesses that afflict Aboriginal society today.

Participants talked of a major change in the time-honored consumption of “damper” (an unleavened bread). Traditionally, in the study community, damper was made from cycad nuts that required time and large amounts of energy to collect, detoxify, and grind. The resulting food was sustaining because it was abundant in nutrients and fiber and was eaten within a varied diet. The introduction of white flour negated the need to undertake this laborious and time-consuming task, resulting in a damper that required little time and energy to prepare and providing few other nutrients than refined carbohydrate. Furthermore, sugar and sweet foods had only become abundant and available all year round through the contemporary food supply. Equivalent sweet foods in the traditional sense were native honey, pollens, and some fruits, all of which were available only in specific locations, seasonally, and in limited amounts. These foods were more nutrient-rich than the pure refined carbohydrate of sugar.

Damper and sugar as consumed in the past were not considered problem foods. The sweet, sugar-laden newcomers, which participants chiefly identified as “cold drinks” (carbonated sweet drinks) and “lolly” (confectionery), were considered to be the problem. Some participants did not consider the addition of often-excessive quantities of sugar to frequently consumed cups of tea to be a problem. Instead, they considered tea drinking to be an acceptable practice related to the past. Similarly, fats and oils were considered a problem, mainly because of the amount consumed within foods such as commonly purchased takeaway foods (fried fish, meat pies, chicken wings, and hot chips), and not because of the nutrient itself. In general, participants tended to also evaluate the quality of the diet based on the three food-related practices that were associated with a loss of balance: (a) balance with traditional foods, (b) level of reliance on fatty takeaway foods and newcomer sweet foods, and (c) variety.

Participants identified the constituents of healthy eating consistent with the principles of the Australian Dietary Guidelines. This demonstrated a broad awareness of the dietary recommendations promoted for all Australians and supports the view of Povey, Conner, Sparks, James, and Shepherd (1998) that different cultural groups in general have a common understanding of healthy eating even though the contexts in which that eating occurs is diverse. An assumption among many non-Aboriginal people is that Aboriginal people choose unwisely from European foods because they lack knowledge of food values and perceive European foods as good (Smith, 2002). Participant perspectives reported here suggest that people do make distinctions between healthy and unhealthy foods and treat introduced foods circumspectly, particularly manufactured foods and preprepared foods, although they have been incorporated within the everyday diet.

**Resources Out of Balance**

Traditionally, Aboriginal people had the knowhow and means to access the food they needed. Participants referred to issues of high food prices, low income, and the day-to-day experience of financial insecurity. These shaped their contemporary diet and contributed to health out of balance.

For most participants, food choice and purchasing were considered within the context of the high cost of food and competing demands for money. Common issues
referred to included high travel costs to visit family, mobile phone credit to stay in communication with kin, gambling, everyday expenses (including basic household items) and, for some families, inappropriate demands for money for illicit substances. Participants commented that the ensuing financial strain supported the consumption of “long-life foods” such as white flour, sugar, white bread, and tinned milk. Long-life foods were considered by all Aboriginal participants to be main staple foods that dominated people’s diets and precluded dietary variety. In a group discussion one participant stated, “Long life—we eat damper, [lots of people] eat bread, light one, fills up for longer, stays longer till next day.”

The long-life foods were perceived to satisfy or prevent hunger, could be easily stored without refrigeration, and would sustain people during the “off-pay” week (the second week of a fortnightly pay cycle), also referred to as the “mayla week.” This second week was also spoken of as the “damper week” or “nothing week,” when there was little available money and relatives were relied on to assist with food and/or money: “Some families, it’s hard because no [food], sometimes it’s like this. No food and then come to pay week, little bit food, damper, sugar, and then coming to payday week, more food.”

The feast and famine cycle participants referred to is similar to that reported by Crotty, Rutishauser, and Cahill (1992) about their study among single low-income families living in a metropolitan city in southern Australia in the 1990s. Among these families, the quantity of fruit and vegetables purchased in the off-pay week of the fortnightly pay cycle was halved. These families also recorded a much lower fortnightly expenditure on meat compared to food expenditure patterns reported for wider Australia (Crotty et al.). Financial insecurity has been inextricably linked to household food insecurity, which is defined as not being able to access adequate food to meet the food needs of all household members (Radimer, Allsopp, Harvey, Firman, & Watson, 1997; Tarasuk, 2001). In the study described in this article, it was associated with the preference for long-life foods.

Participants also commented that available funds influenced people to purchase less of the perceived higher-costing, nutrient-rich foods. All participants indicated a liking of fruit and vegetables, particularly most fruits, sweet potato, cassava, pumpkin, and capsicum; however, it was considered that most community members purchased these foods infrequently and almost exclusively during the pay week of the fortnightly cycle. A younger participant observed that the “fruit and vegetable group is missing” from people’s diets. On a limited budget, these foods were considered “too risky” because of the likelihood that extended family would quickly consume any purchase or that there would be wastage because of lack of refrigeration. The common inability to afford basic household kitchen items, including household refrigeration and resources for cooking, was identified as a further constraint:

Because the price is going up every year. There is good food there but price gone up. Some people they are living on little [money] . . . So they need to drop the price down a bit.

Electric frying pan, the price is too high, or normal pan or cups.1 I bought four cups from the store and one cup cost me eight dollars, for one cup, for drinking tea. Eight dollars for one cup! From the other community shop, I can buy cup for five dollars. What is the difference there? And in Darwin you can buy a cup for two dollars or one dollar even. I can’t afford to buy here. Refrigerator, even fridge, we can’t afford to buy fridge from here.

These perceptions and experiences seem to support the evidence that economic constraints drive food choice (Drewnowski & Darmon, 2005; Smith, 1991). Studies among different income groups show that low-income earners are less likely to eat in accordance with recommended dietary guidelines, compared to higher-income earners (Turrell, Hewitt, Patterson, Oldenburg, & Gould, 2002). Crotty et al. (1992) proposed that this was not for reasons of ignorance or lack of motivation, but largely because of household socioeconomic circumstances and structural constraints (Giskes, Turrell, Patterson, & Newman, 2002). Among households in the Brisbane metropolitan area, income was found to be a stronger discriminator than education in determining the variety and regularity of fruit and vegetable purchases (Turrell, Blakely, Patterson, & Oldenburg, 2004).

Food and money were central to the discourse of participants, and it seemed that much time was spent securing food. When food was not available in one household it was quite acceptable that people would seek food from other family members in a related household. For many participants, this sharing of food was considered integral to life and an act to acknowledge, reaffirm, and reinforce relationships:

We know what to get, but it’s not only for us. We must and, always take some back to give to our families and other family members, and by doing that we are helping them to stay strong and live healthy strong lives. And we have this very strong custom in helping each others, foods and everything, and we still live by that law. [pause] How? [pause] When I run out of food here, especially the food that I buy at the shop, I sometimes, or just often times, I go around to my brother’s place or my sister-in-law’s or my brother’s family, especially my other family members. I go there to get [food] from them [pause]. Yes, [pause] but for me, when I come back bringing back something with me, I not only share it with my immediate families but also to other extended family, not only what I collect but also what I buy from the shop.
Household systems to manage sharing were also referred to by several participants, such as choosing to lock refrigerators in bedrooms that accommodated families and the tendency to deliberately store very little food in the home. Consuming takeaway or ready-prepared foods was another strategy to avoid repeated or unreasonable food requests, because these meals could be consumed without the need to share. Such practices have been reported in another remote community by Saethre (2005). Some requests were also seen as “humbug,” a request considered incessant and unreasonable (Altman, 2012; Sutton, 2001).

Whereas many commented on food insecurity as a common reality, many participants referred to the ability to access traditional foods and the cultural act of sharing as a safety net. As Finlayson, Daly, and Smith (2000) pointed out, however, social networks providing a safety net that are essentially welfare-based can easily be overburdened with demands that cannot be met. Financial burdens in households are not always equitably distributed, resulting in excessive stressors on certain household members, particularly the “core” members of household units, such as those on aged pensions (Finlayson et al.). In the present study, one participant saw sole female parents as particularly vulnerable to food insecurity because of reduced social networks and limited access to income. Radimer, Olson, Greene, Campbell, and Habicht (1992) demonstrated that not all members of a household are affected equally by food insecurity, and that children can be particularly vulnerable. In the present study we did not explore food distribution within the household or the level of food insecurity experienced by children.

Discussion

The findings from this study help provide an understanding and appreciation of people’s viewpoints on the meaning and significance of both their traditional diet and the contemporary food supply that predominates today, and their influences on food behavior. Strengths in the study design included the prolonged engagement within the community enabling development of close relationships, and constant guidance of the research process by an Indigenous mentor group. Interviews were conducted in local language whenever possible, with audiorecording and data translation carried out in collaboration with local researchers. This study was conducted in one community and cannot assume representation of views and experiences of Aboriginal people in other Northern Territory remote communities. Nevertheless, food-related practices that participants referred to in this study have been observed in other remote Australian communities (Saethre, 2005). We are also aware that these indicative findings do not include the views of younger people.

Many of the factors that participants raised as influencing food choice, such as access to traditional foods, food and nutrition knowledge, and food affordability, matched with those previously identified in the literature, as shown in Table 1. Unique to this study was the opportunity to explore the experience of these factors on the everyday lives of people and the meanings attributed to these that help support a better understanding of food choice from the viewpoint of the participants. In traditional Aboriginal Australian society, hunting and gathering food formed the basis of the economic and organizational structures of society. The depth of knowledge, practices, and lifestyle associated with the traditional food system were situated within the wider context of culture, society, belief systems, law, and the natural environment, and within the interrelationships between these different contexts. The diminished prominence in people’s lives of a holistic, integrated, traditional food system and the transition to a new and unfamiliar food system were acknowledged by participants to have affected every facet of life and to have underpinned poor health.

Understanding this holistic view of food emphasizes the need for a systems/socioecological approach when considering the determinants of poor nutrition within Aboriginal populations, and when planning to develop strategies for nutrition improvement. Such an approach demands more attention be given to the interactive nature of multilevel influences on the contexts within which eating behavior occurs, rather than putting a narrow focus on individual nutrients such as fat and iron, and on individual behavior change outside of its cultural and social context. The participants in this study were interacting and trying to find the balance between two food systems that represent very different cultures. It is salient that the near-intact traditional food system that older participants referred to existed within their living memory. It was particularly significant that participants considered that an understanding of their traditional food system was imperative to providing the framework for learning about the contemporary food environment.

The transition for Aboriginal people in remote Australia, from a traditional food system that formed the backbone of society and represented culture, to a food system that has no apparent similar cultural representations or rules, seems to have fundamentally shaped food choices. In developing strategies to support healthful eating within remote Aboriginal communities, practitioners should consider incorporating opportunities to include traditional foods in the diet and encourage propagation of knowledge related to traditional foods. As Lee et al. (1995) highlighted, the use of traditional foods can be a meaningful reference point for education relating to the introduced foods. A refocus on traditional foods in
practice and policy could further serve to reinforce the longstanding traditional social and cultural values of food and assist in regaining a sense of life in balance. Government and other authorities disregarding the role of the traditional food system in nutrition education and the economic and social development of remote Aboriginal communities might only serve to further disenfranchise people through inadvertently promoting assimilation to a Western ideology. These issues warrant further research. The findings of this study highlight a perceived lack of knowledge among participants in relation to introduced foods that have become integral to their lives. The knowledge system that participants based their knowledge of food on related to much more than just the nutrient composition of food and the association of food with health and disease. It considered the meaning of food within its social and cultural context and the ability to be able to identify and connect with the food and the food system. A person’s knowledge of introduced foods might indeed be no less than that of non-Aboriginal Australians. Nevertheless, participants perceived knowledge of the food system as an important determinant of food choice and the lack of it as a reason for relying on a diet of little variety. This is particularly salutary in relation to nutrition education and suggests that, although mainstream nutrition-related messages might be picked up, the meaning and knowledge underpinning these messages might be lacking (Cass et al., 2002).

Contextualizing nutrition education whenever possible in relation to the traditional food supply, and framing it within information regarding food origin, its history, cultural practice, processes of production, distribution, and preparation might have greater relevance for Aboriginal people than the Western reductionist approach of teaching about food in relation to nutrients and disease. Lee et al. (1995) also suggested, based on dietary improvement observed in one remote Aboriginal community, that practical support to act on knowledge was required rather than more nutrition education per se.

The findings of this study also draw attention to the strong influence of the family environment on the development of children’s food preferences and eating, and the traditional educative role of elders and adults in the family unit. This suggests that parents and elders need to be supported to regain their position as role models and teachers to form the cornerstone of nutrition education.

It is clear from the perspectives presented in this article that the high cost of living coupled with low incomes and other economic stressors underpinned a household environment where dietary quality and quantity fluctuated from bad to worse across the fortnightly pay cycle. Even though participants demonstrated knowledge of the basic constituents of a healthy diet, this seemed heavily compromised by economic constraints. Interventions to modify the cost of food and food affordability must take place simultaneously with nutrition education.

In conclusion, the participants in this study revealed an intricate knowledge of a food system that had been sustained for thousands of years. Traditional food was central in defining the identity and epistemology of the participants. The contemporary food system seemed to hold no cultural representation for participants other than perhaps an imposed ideology. This notion, however, requires further research. These findings suggest that practitioners considering future approaches to improving diet—and thereby health outcomes—for this adult population and similar remote Aboriginal Australian populations need to recognize the role of traditional food in representing cultural identity, focusing on supporting access to traditional foods, contextualizing and giving meaning to food within nutrition education, supporting the educative role of caregivers and elders, and addressing the high cost of food.

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Note
1. In 2005, a frying pan was $127 in a community store compared to $70 in Darwin.

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