



SOCIOCULTURAL CONSIDERATIONS IN DATA COLLECTION AND INTERPRETATION

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27.1 INTRODUCTION

This essay suggests additional sociocultural considerations that might improve data collection and analysis. The IUNS initiative on food habits and the elderly offers a theoretical and methodological framework to relate nutritional and non-nutritional factors to health outcomes and longevity. The research is designed to test hypotheses about the relationships between diet and disease; and migration, traditional diet, and disease. The immediate agenda of this workshop has been to compare methodologies and data sets of multiple studies, and to write a book or manual on diet, nutrition, health, and social factors that relate to longevity in elderly populations.

These activities contribute to the overall project, which has two somewhat disparate objectives. One is to establish a conceptual framework for talking about social factors in diet, health, and disease as these affect longevity and survivorship in elderly populations. The other is to provide baseline data and guidance, if possible in the form of a manual, for collecting social, dietary, and health data. Such a guide might facilitate future community efforts to assess the needs of their own local elderly and also suggest possible ways to improve their well-being. To reach these related but somewhat different objectives, researchers have utilised a combination of quantitative and qualitative methods: survey questionnaires and ethnographic interviews, including Rapid Assessment Procedures (RAP).

Discovering the best ways to represent and score social and dietary factors that contribute to adequate nutrition, health, and well-being has been an important methodological challenge for both quantitative and qualitative approaches to data collection. Learning to utilise RAP more consistently and effectively has been another methodological goal. Most of the discussions here have focused on academic and public policy outcomes or implications. But an additional, practical objective, or goal for collecting this data, particularly by methods of RAP, is to promote

community understanding and empower communities to assume responsibility for monitoring and responding to their own nutritional situations.

Two methodological concerns which emerge from the comparisons of methodologies and results are: (1) how comparable they really are; and (2) what might be added (or deleted) in the protocol structure or content to facilitate greater cross-cultural applicability and comparability. Cross-cultural comparison is limited, or in some cases, possibly shaped, by the different instruments used in the different sets of studies that reflect to some extent the cultures of the scientists involved and their own cultural notions and models of how the elderly live and eat. The intent may be "cross-cultural" comparison but the design of the instruments is heavily "northern."

Another cross-cultural concern is how to talk about perceptions of the interrelationships between food, health, and lifestyle in ways that accurately communicate unique features of cultural practices and interpretation in that culture's own terms without sacrificing scientific rigor or possibilities for cross-cultural comparisons. As stated in the objectives of these cross-cultural studies, "variations in dietary patterns may influence life expectancies and morbidity and mortality patterns in the elderly". By studying dietary histories of the elderly ("the survivors") cross-culturally, these studies argue that it should be possible to identify "a number of desirable food patterns conducive to good health" consistent with a working hypothesis that "survival to old age is compatible with widely differing food habits". But so far, researchers have paid scant attention to culture-specific formulations of food, health, and function - other than reporting the food beliefs of the respondents.

Anthropology offers a number of concepts and methods which can facilitate culture-specific description and cross-cultural comparison, as well as community-researcher understandings of nutrition problems of the elderly. These include: (1) description and comparison of food and health contexts in terms of cognized and operational environments; (2) detailed analyses and comparisons of individual, household, or community cultural diets in terms of food systems and food strategies; (3) structural descriptions of the social dimensions of food security or hunger vulnerability (as these might affect the well-being of elderly populations); and (4) some caveats and pointers on how to use RAP more effectively to promote more reliable data collection, but also greater community involvement.

These four approaches also provide openings to address certain surprising gaps in the findings reported so far. The first is that the studies so far designed and reported include no discussion of hunger vulnerability or food security as dimensions of the elderly's food choices, health status, and lifestyle. The second is that with the possible exception of the Chinese studies, all of the reports focus on isolated individuals rather than individuals in social contexts. This seems to contradict a central goal of the set of cross-cultural studies, which is to identify social factors that promote superior diet, nutrition, and health. A logical working hypothesis is that the focus of elderly individuals in social contexts affects dietary choices, food and nutrient intakes, health,

and lifestyle. A related hypothesis is that the breakdown of the traditional linkage of eating with socialising constitutes a significant risk factor for nutritional and social deprivation. Identifying who is at risk of such deprivation constitutes critical information for health programs, health providers, or community efforts seeking to assess risk and respond.

A related surprise or gap is that the studies presented here have not tried to isolate the most important risk factors or indicators. They have not tried to group, cluster, or rank risk factors for food insecurity, malnutrition, or ill health or facilitating factors for superior outcomes. Instead, they have reported, rather mechanically, responses to the cross-cultural questionnaire and study design. In regroupings of the data, these points should be taken up. Nor do investigators seem to have probed the respondents for what they think are the most important risks or facilitating factors for a healthy old age. For example, a working hypothesis might be that the elderly's command over food and other economic resources affects how they eat, how healthy they are, and their lifestyles.

To meet both scientific and community participation objectives, the challenge in this cross-cultural investigation remains to identify key food/ nutrition and lifestyle/ activity factors related to healthy old age. As a corollary, nutrition of the elderly will continue to make a significant demand on food, health care, and social service resources. For nations trying to anticipate food needs and calculate food self-reliance, the consumption patterns by the elderly will be increasingly important components of food demand for the foreseeable future. The relationship of the elderly consumption patterns to total national food supply and demand, therefore, is a significant area for continuing study.

27.2 COGNIZED VERSUS OPERATIONAL ENVIRONMENT

A first step in describing the food habits of the elderly is to formulate scientific categories and understandings; a second is to describe local cultural understandings; and the third, to compare them. Scientists classify the components and interrelationships in the physical and social environment in terms that are broadly comparable across cultures. These scientific labels and judgements, which anthropologists label the "operational environment" contrast with the "cognized environment" of native peoples, whose classifications and evaluations of the parts and states of their (food or health) environments are sometimes called "folk" (as distinct from "scientific") classifications, or "ethno-nutrition" or "ethno-medicine" to distinguish these ways of perceiving nutrients and health from those systematised and used by scientists. Complicating matters, community leaders and health providers often possess their own versions of "folk wisdom," distinct from that of ordinary people in a community. Thus, the challenge in cross-cultural comparison and interpretation is to sort out and link at least three levels of terminology and interpretation: (1) the scientific; (2) the local expert or health provider; and (3) the ordinary folk beliefs and practices, which affect the behaviours in question.

Terms and relationships of the operational environment map onto the terms and relationships

perceived in local cultural terms more or less imperfectly. But a principal approach for learning why communities (or individuals) behave as they do and whether or how they understand the nutrition and health messages of health providers - and the consequences of such behaviours and understandings - is to compare such folk wisdom with that of the scientists. For example, human ecologists compare native and scientific understandings of biological communities and physical environments, in order to evaluate on scientific grounds the implications of native resource management strategies for productivity and ongoing stability or evolution of their ecosystems. Ethno-medicine describes local concepts of health and categories of illness. An ethno-medical approach evaluates, for instance, how local peoples perceive illness aetiologies for symptoms which scientists label "diabetes," "heart disease," and "hypertension" and often offers recommendations on how better to communicate health messages, given local beliefs and practices.

Ethno-nutrition describes the ways in which local peoples evaluate food and diet, and how diet is used to avoid, to treat, or is otherwise implicated in illness. Understanding folk nutritional categories corresponding to "sugars," or "fats," for example, is a first step to prescribing a more healthful dietary regimen for populations at risk of heart disease or diabetes. Understanding local tastes and perceptions of saltiness might facilitate acceptance of diets lower in sodium.

There are few ethno-nutritional studies so far to point to as samples, but the IUNS protocols could incorporate questions to create local cultural baseline data to serve the health interests of the population and the understandings of the scientists. Local dietary studies can bridge ethno-nutritional and ethno-medical understandings with simple questions such as, "do people's understandings of the qualities of food, and their healthful or harmful qualities, correspond to those used by nutritionists, and if not, do their perceptions make a difference in how healthily they eat from the nutritionist's perspective?"

In the current data sets, two additional areas (of the existing protocol) in which careful description of the cognized environment, and comparison with the operational environment might facilitate individual cultural understandings, and improve cross-cultural analyses, are: demography, especially local concepts and categories of the aged: where and how well they live; and function, or notions of what constitutes excellent, standard/ adequate, or inadequate performance of activities of daily living [ADL], social network(ing), social support, etc. Folk classifications or judgements of well-being may combine health and social indicators although scientists consider them separately.

The following sections draw on the protocols used in the Euronut-SENECA and IUNS studies to suggest some areas where comparison of the scientific protocol and sociocultural understandings might prove valuable.

27.2.1 Demography - age: biological and social markers

The IUNS studies have tried to define the elderly chronologically, but even so, found that the 10% of oldest in any population differed from site to site. They have been interested in the "old elderly" who are greater than 70 years; and the "young elderly" who are less than 70 years, although chronological age and biological age differ for different populations and also within populations. The Australian Aboriginal study documents furthermore, that among those with lowered life expectancy, those who have reached even, say, 40 years may be counted as elderly, even though it is not clear how this data relates to that presented in the other studies. Additional complications of counting who is elderly arise where there are no birth certificates available.

If one wants to tap the elderly as a source of knowledge, then one probably should interview all of the very old according to chronological criteria, but also interview and observe those who are "very old" according to local functional criteria. Local communities most likely distinguish a cohort of aged individuals and can describe how these are defined, in terms of work status, who cares for them if they cannot earn their keep, etc. It is critical to understanding these local definitions and relationships because they affect what the elderly eat, and their access to food, care, and health maintenance.

In household contexts, for example, individuals may be defined functionally by their places in or out of the workforce or by their roles and activities within the family structure. More generally, community cultural norms may prescribe or describe what behaviours are expected of and toward the elderly. In Nepal, for example, to be old is to be served: that is part of the definition of being old. In China, the elderly are maintained by the force of custom, within the household. A key question in local cultural terms is: how does society perceive the (individual) elderly, and how does this perception confer on an individual a particular standard of treatment? How do such local categories correspond to standard epidemiological (scientific) categories?

27.2.2 Demography - rural-urban background

The IUNS studies rightly assume that rural or urban location can affect food habits significantly. But again, local understandings may be important, particularly in elucidating possible life history factors beyond rural or urban location in health and longevity. Almost all of the aged populations would have been affected to some extent by the stresses of warfare, food rationing, etc. In Europe, the very old would have encountered two world wars; in China, they would have survived the revolution and its aftermath, food hardships associated with the 1959-61 famine during the Cultural Revolution, and so on. This particular group of elderly have survived a rather special set of circumstances over their lifetimes; and, at least in the European cases, have also experienced rather spectacular changes in diet accompanying industrialisation of food.

Additional concerns are whether rural or urban designations are meaningful in local terms, as individuals may have moved back and forth between city and countryside over the course of their lifetimes, and even now, peri-urban zones that sprawl out into what was countryside may be difficult to classify, particularly where households maintain some proportion of home food

production. It is assumed that lifestyle and health are very different in rural versus urban zones; critical factors include employment and income; access to certain kinds of food and diet, especially over all seasons; access to health care and other social services but also to certain types of health stressors; and access to social networks within family or beyond. All can affect longevity and vulnerability to illness. The challenge is to learn from the people what they perceive as critical relationships and then discern how these local perceptions conform to scientific expectations.

27.2.3 Function - health, activities, social support

Concepts of health, categories of illness, and the measures undertaken to improve functioning in the elderly obviously vary cross-culturally. Designing questions which are meaningful in local terms involves some initial series of questions about the main illnesses from which local people are known to suffer, their perceived aetiologies, and procedures for management. Do perceptions of chronic diseases, such as diabetes, hypertension, and heart disease correspond to those used by medical physicians? If not, where do they differ, and how do the differences affect diet and other health measures, and perceptions of illness aetiologies? Under "self-reported use of medications" interviewers take it for granted that categories such as "high blood pressure," "high cholesterol" and "diabetes" are identical with modern medical categories. And in most cases, adults are dealing with some aspect of the modern medical establishment and do report their health beliefs and practices (including home dietary remedies and regimens) in terms of these allopathic illness categories. But it is also possible that these modern disease names have become labels for broader categories of folk illness symptoms, and some checks have to be made.

Aside from chronic diseases, what are the most important local categories of disorders that affect food intake, such as diminished sense of taste, loss of appetite, or dental difficulties, and what are some countermeasures or tonics? What are local perceptions of the relative healthfulness or digestibility of different foods or dietary regimens, and how do they contribute to food choices?

27.2.4 Self-rated health, lifestyle and disability

Another approach to learning about local perceptions of well-being is to ask individuals how healthy they are relative to others in their age and gender category. Such questions usually elicit a list of expected activities or performance measures of health. In local terms, wellness is often defined in terms of performance or functioning. To what extent do health problems prevent an individual from carrying out certain essential activities, such as work, food preparation, or just getting around? Inability to carry out such activities may be in itself part of the local definition of "old age" which is supposed to elicit some specific social response.

These functional notions correspond more or less imperfectly to the scientific "activities of daily living"; and can be compared with the categories offered by scientists, and also across and within cultures. IUNS questions about alcohol consumption, sleep patterns, incontinence, exercise, and

activities of daily living might all be better asked (or analysed), in local terms, along with these questions about health. A key issue for food intake is whether an individual can get up and out to access adequate food? Responses, it should be emphasised, may vary not only by individual respondent, but also by interviewer.

In certain cases, the interviewer's gender may affect the kind of health report, and might be taken into consideration when asking delicate questions, such as those relating to sexual function. One curiosity of the current questionnaires on health status self-report is that it is sex-specific but incomplete with regard to sexual function in old age. Among international, but particularly European and US elites, health spa programs to counteract the ageing process use some combination of diet, spa, and medicines. Injections prepared from foetal sheep cells, growth hormone, and in one case, an anti-depressant, were among the measures offered to maintain or restore potency and energy. Adequate sexual functioning for the elderly is a chief concern in these "health" programs.

The IUNS questionnaire asks about menstruation and menopause but not about self-perceptions of male sexual function. Dietary and medicinal regimens to enhance potency are salient components of most folk medical regimes aimed to improve self-perceived "health" and "functioning" and, if possible, should not be overlooked.

27.2.5 Self-reported health conditions, use of medical care, and self-reported use of medications

Another important issue is who diagnoses illness and then responds? The IUNS surveyors questioned "self-rated health" and "use of medical care" for elderly living on their own. But members of the peer group or the larger social support network of family, friends, and social services are also integrally involved in this process of diagnosis and response. This larger social context offers additional information about the range of medical care options available, from preventive to health maintenance, to restorative services, which can provide a more complete picture of the health and lifestyle of the elderly.

Community interviews also provide opportunities to check and reflect on "self-reported health conditions" and the elderly's understandings of how their diet affects their well-being. The case of immigrant Greeks in Melbourne is instructive on this point. Interviews showed that elderly individuals definitely linked their current feelings of good or ill health to their food history and social environment. They believed that their health has suffered and continues to suffer because they eat too much meat and not enough legumes in their Australian environment. They also believe that their well-being is compromised by a lack of social support, as family values which traditionally incorporated the elderly into extended family and community life have not persisted completely in the new environment. Both indicate tensions between the older generation and the younger generation on which it relies for respect and support. Community-based programs are probably the ones best equipped to elicit such information and to propose responses, where the

elderly eat at home and where the wholeness of traditional community life has been ruptured.

A further concern is economic. How often the individual takes what kinds of medicines might be supplemented by information about the costs of those medicines (as a factor affecting whether and how often particular medications are taken). Costs also affect what tonics and foods are taken for health. Another issue in taking medications is whether the individual can get out and around to acquire them. These questions are all considered in separate sections of the IUNS questionnaire, but some effort should be made to bring them together. For the scientist analysing the information, a key summary issue is: from whom does the elderly individual receive support (from household, friends, community organisations, and government) to get food and health care?

27.2.6 Self-reported use of micronutrient supplements

In traditional settings, some of what medical scientists term micronutrient supplements may be foods, such as wild greens to lower blood pressure, or other foods or tonics which are classified as "good for the blood". A way to report such information is to list common medications, but then also to summarise for what ailments people take non-pharmaceuticals, such as herbal teas or tonics, how much or how often, and on whose advice? Are particular classes of remedies matched to particular classes of illness in terms of humoral categories ("hot"- "cold" classifications) or other frameworks, and do such classifications also influence how people eat, i.e., do they pay attention also to the hot or cold qualities of foods? Questions to elicit such responses can be tailored to the local setting.

27.2.7 Social factors - social activity, social network, living arrangements

The IUNS instrument asks twelve questions regarding contacts with friends and relatives, feelings of loneliness, and degree of social support. But the challenge remains: how to construct a questionnaire that is culturally appropriate but also comparable across cultures. The SENECA studies checked use of senior citizen and community centres, but these would not be relevant in more traditional settings of extended family life. Questions about living arrangements, which ask about the individual's ability to move from room to room or to climb stairs are highly culture-specific, since in much of the world, individuals live altogether in one room at ground level. The significant dimension for calculating adequate performance or disability everywhere is probably whether the individual can leave the living chamber to relieve oneself, to get essential foods and medicines, and to exercise. Where elderly individuals do not venture out, is it because they fear they will fall? they fear crime? they fear incontinence (or lack of facilities to meet their emergency needs)? Another significant dimension is whether the individual can move around sufficiently to prepare food, maintain personal hygiene, and participate in social life.

For social support, to what extent are the elderly individuals anchored in one or more social groups, be these defined by kinship, by religious community, or by work? To what extent do

these support networks provide emotional support, information, and materials (including food and medicine) to the elderly? What are the local definitions of adequate social support, and can an individual lacking such basic support be identified rapidly by existing measures? Is visiting (neighbours, religious or community group, family) an expected social activity, and can it be scored?

In China, elderly are traditionally located within extended family networks, where they are supposed to be visited, fed, and cared for, and to perform some useful work, if possible, within the unit. But most of the other samples are of individuals, living alone or with a partner. These affect what are expected as activities of daily living; as well as socialising beyond the household, to get a sense of social support from kinship, friendship, or collegiality. There may also be gender-related differences in whether the elderly are expected to provide for themselves, to cook for themselves, to maintain themselves independently, or to contribute to household and community activities. For example, women, but not men, may be expected to continue to contribute to household cooking and cleaning where they are maintained by younger relatives. Ability to live independently, especially to prepare food and maintain personal hygiene, also vary across cultures, and must be taken into consideration when constructing cross-cultural comparisons. Pressing the button to heat food in a microwave or on an electric stove is much easier than gathering fuel for a fire and keeping it burning. Bathing oneself in a household tub which has running water on one level in one's living quarters (as in Western Europe) is much easier than having to walk some distance to a river, as in some developing countries.

27.3 FOOD HABITS

This section offers several alternative ways to collect, analyse and compare food and nutrient intakes and the beliefs and practices motivating particular styles of food consumption (and other aspects of "food habits" reported here in standard scientific categories) among elderly populations. As in the cases of health-function, the challenge is to report food habits of each culture in terms that will capture their uniqueness, but also allow cross-cultural comparison. One way is to compare food strategies; a second is to explore more carefully the food system in scientific and local cultural terms.

27.3.1 Food strategies

Food strategies refer to the ways in which (the elderly) source adequate food. Generally, these strategies can be categorised as (a) home production; (b) purchase (from markets or shops); (c) foraging (in fields, hills or forests or sometimes in others' homes); or (d) gifts [1]. Brief questions about the sources of daily food items; or changes in weekly, monthly, or seasonal strategies can provide evidence about overall food acquisition patterns which contribute to understanding mechanisms by which the elderly guarantee food security and the changes in consumption patterns over time. Gifts (conventionally from relatives or patrons, but also now from social service programs) may be further indicators of social support networks and of the adequacy or

inadequacy of the larger social safety net. In eliciting "traditional food intake" and "past food intake," interviewers can probe how food strategies have changed over time, given movements of people, changing economies, changing social community dynamics, and also the social and biological ageing process. Even where they have remained in the same location, the elderly can discuss generational changes, increasing dependence on children, or more recently, on government or non-government organisation social security mechanisms. It is useful to consider not only what *traditional foods* were consumed, but also traditional *meal patterns* (see, e.g., Goode et al. 1989). A possible check on the usual variable responses of individuals about how diet has changed is to compare these subjective findings with national statistics. Dietary histories can also pay closer attention to seasonality when recording traditional foods. Some traditional foods are available or eaten only once or at certain intervals, and therefore good indicators that might not be captured if food frequency is recorded in an "off" season. RAP is an excellent way to elicit background data, and then check responses. RAP can also be used to identify relevant watersheds in time in different cultural contexts. For example, the European data sets use "the years immediately prior to World War II" to distinguish between traditional and more modern periods in diet and culture. But for much of the rural developing world, the appropriate watershed might be the entry of a major highway, that brought the market into the region; the introduction of new agricultural commodities which changed local production systems, food self-reliance, and diet, or other such events and cultural processes.

27.3.2 Food systems - cultural food classification and social distribution of food

More precise ways to describe the determinants of food intake include descriptions of economic and ecological factors, sensory factors, perceptions of physiological effect, cultural-symbolic factors, perceptions of healthfulness, appropriateness for age or gender, or ritual or social status [3,4]. The overriding considerations in food choices and dietary constructions appear to be ecological and economic food availability. People eat what is accessible or affordable. Economic constraints set limits on both quantity and quality in food choices.

The relative costs of staples, of sugar, and of other non-staple foods can be the most important determinant of their role in the diet of the elderly. Seasonal or more permanent scarcity may affect food choices, and also the elderly's access to "gift" food on the part of younger relatives or community organisations. The time budgets of food providers may affect their ability or willingness to access and prepare special foods for the elderly, as well as the timing of such meals and visits for the elderly. Food choices should always be evaluated within such ecological and economic constraints.

27.3.3 Ecological and economic factors

27.3.3.1 Sensory factors (taste, texture, visual, etc.)

Beyond accessibility or affordability, food choices are governed by a number of sensory factors,

which for the elderly may differ from those of the general population as the elderly often suffer impaired taste and smell which depress or sometimes change appetite; difficulty in chewing or swallowing which change preferences for texture; difficulties in digestion which change preferences for foods high in fibre, and other changes. Which foods the elderly perceive to be harmful or hard to digest may change with age and memory, and also be affected by long-standing experience with culturally categorised qualities such as heat.

27.3.3.2 Perception of physiological effects

Items that are perceived to be gas producing, such as certain legumes, may be avoided increasingly as the elderly become less mobile and suffer more from flatulence. Bitter tonics which were once avoided as too heating or cooling may be consumed as energising, as the elderly look for new sources of vitality. Easier to digest grains, such as maize over sorghum or millet, the latter of which were once prized as more filling, or white over whole grain breads may be preferred, as easier to digest, no matter what the nutritional education efforts are to improve fibre content. The nutrition and health beliefs of the local culture may furthermore deem certain foods good or bad for certain conditions: e.g., green leafy vegetables or salads may be judged good for the blood (for lowering blood pressure, for mitigating the debilitating effects of diabetes); salty and spicy meats may be considered bad for these same ailments or for the heart. Local beliefs and practices can be analysed in their own terms; as cultural translations or interpretations of medical wisdom communicated by the scientific medical community; and in comparison with other cultures.

27.3.3.3 Cultural-symbolic categories

Many cultures add to sensory coding of physiological effect additional symbolic labels, such as "hot-cold" or "moist-dry" which refer to intrinsic properties of individual food categories to affect internal healthy balance. A male who has spent years in the sun, and suffers frequent indigestion, may try to avoid gastric distress by eating foods classified as cool or neutral; as may a woman who had spent most of her years processing food around hot fires. Alternatively, certain bland foods may be deemed easy to digest or to chew and appropriate for older people, but coded in terms of foods or tonics for the elderly.

Ritual cycles may be pervasive in determining food intake patterns for the culture at large. At some point, however, the elderly may participate less in fasts and restrict eating in feasts. Learning when, why, and how such relaxation of ritual food rules takes place provides another local cultural indicator of elderly status, and a further indicator of relationships between food intake and lifestyle changes accompanying old age.

Gender contributes an additional criterion to food selection as certain foods or tonics may be deemed appropriate for males versus females. The interviewer wants to find out what particular gender distinctions exist and if the individual follows their prescriptions. Certain foods may

alternatively be deemed especially suitable for the elderly, e.g., simple traditional foods or foods which are easily chewed or digested. Others may be avoided as inappropriate, e.g., simple sauces or staple food dishes which are considered only good enough for the poor and young.

27.3.4 Dietary structure

The components above referred to individual foods; but foods are combined into diets, which have particular structure and content, and which change over time.

27.3.4.1 Core vs peripheral foods

Diets are usually described in terms of core versus peripheral foods; i.e., those which comprise a large quantitative proportion of nutrient intake, versus those which are complementary or supplementary. The dietary staples rice or maize complemented by beans or vegetables are the core foods of many rural agricultural households in Latin America and Asia, while bread and sweets are peripheral. They are staples while chilli peppers, oils, and spices are condiments or relishes to the major foods.

27.3.4.2 Meal patterns

Foods furthermore fit systematically and appropriately into particular repasts or eating intervals during a day. The instructions on the Protocol are to report the total numbers of meals per day (main meals and snacks) by age and gender; the numbers of cooked versus cold meals; and the average time of day that the meals are served. An appropriate research question might also be whether there are stable meal patterns; if these meal patterns vary according to variable accessibility of food (e.g., in the US, senior citizens tend to eat full meals as they may be provided in soup kitchens or senior citizen centres) or in other settings, according to season and work schedules. The numbers of cooked meals will also be affected by these seasonal and periodic work scheduling factors.

Snacks may be energetically and nutritionally as important as meals to many of the elderly, who eat small amounts of food more frequently, rather than larger amounts of food two or three times per day. They may be home bound, and find more frequent, less hearty repasts easier to digest. The Swedish sample were reported to have concepts of nibbling and small between meal repasts. Such nibbling habits may reduce appetite for and food intake in main meals. When tea is drunk (or other beverages or snacks are taken), it affects the appetite, and may also affect iron and thiamine absorption (as when tea is taken without other foods). To what extent such snacks tend to be nourishing fruits and vegetables, versus less nourishing beverages or special, less nourishing snack foods, should be an object of investigation, in discussing how food habits change over time; and their healthfulness.

Additional food pattern issues are: bingeing and lean eating cycles, such as those reported among

Aboriginal Australians. The quantity of consumption varied with the periodicity of welfare, the latter of which mimicked earlier patterns of seasonal or temporary periodicity in food supplies, although the foods were different. These periodicities have significance for accuracy of data collection (is the recorder capturing the periodicity in a 24-hour recall?) and for health. Periodic bingeing due to natural, ritual, or political-economic seasonality; illness, work cycles, social security, and food budgets are all factors which affect nutrient intake and most likely health and longevity. Another issue is alcohol consumption, which sometimes has been recorded separately, but may provide a significant component of daily calories, and should be worked into the quantitative food frequency.

27.4 SOCIAL DIMENSIONS OF FOOD SECURITY OR HUNGER VULNERABILITY

27.4.1 Social factors

Community and household structures affect dietary structure, how households eat, and how individuals eat. They also affect perceptions of health and illness, health maintenance, and more generally, care. Communities have their daily, weekly, seasonal, and ritual rounds, which persist to a greater or lesser extent under conditions of rapid sociocultural change. Communities ordinarily also have secular or religious mechanisms, to identify those elderly who are not being adequately fed and cared for, and to intervene. One set of findings from these studies might be how these mechanisms are changing in modern circumstances, particularly as the elderly tend to live alone, rather than be cared for within extended families, and as the demands of employment on the part of kin and friends may interfere with more individualised preparation and distribution of the elderly's food and care.

Another factor which may undergo change is how the elderly are cared for in normal times or in times of dearth. All studies of famine and seasonal hunger indicate that as resources shrink, so does hospitality. But we have only a limited idea of the implications for care of the elderly during periods of ecological or economic stress. Some studies (e.g., Pagezy, 1982)[5] indicate that in traditional societies, care of the elderly has been undermined, as the young scramble to make a living. But the extent is not so widely known. Nor are the characteristics of the individuals or households which continue to care for their aged; and the role that the elderly individual has in assuring that he or she has this care. Although documenting what interferes with survival as cultures change is not part of the original mission of these projects, the data should indicate how survivors managed to avoid food insecurity and hunger vulnerability which shortened the lives of others.

27.4.2 Poverty

Poverty obviously affects food and nutrient intake, health, and longevity, but we have few reliable standard measures which are accurately or easily translatable cross-culturally. In the Guatemalan sample, poverty was considered to be less than one market basket; miserable

poverty less than two market baskets, but there is no clear way that this is then translated into nutritional, health status, and longevity relationships, or made a component for cross-cultural analysis.

27.4.3 Living situation

Living alone (where not provisioned regularly by children or social services) may be the greatest risk factor for malnutrition and hunger. Living alone may reduce access to food; appetite to eat; and access to care whether hungry, malnourished, or depressed. Living with or without a partner provides more information about potential nutrition and care than marital status. Relation of education to past work and present food supply; and also to pensions are all dimensions of the social environment which affect food choices and well-being. The elderly may miss meals, snacks, or liquids, and thereby suffer health impairment, and be less likely to go out in search of sociability, care, food, and health care.

One goal of community studies might be to construct a grid of warning signals of food insecurity and hunger vulnerability for their population of elderly. Overall, individuals suffering food insecurity usually suffer from some number of characteristics, including lack of secure access to food or to meals; lack of teeth, some health problems, and solitude. Each puts the individual at some nutritional risk; any two or more in combination increase the risk; but such questions were never asked systematically. Such criteria are best teased out by RAP.

27.5 RAP: QUALITATIVE VERSUS QUANTITATIVE ISSUES

RAP is a set of methods, designed by anthropologists and sociologists, which uses community participation to gain qualitative information on social problems and programs rapidly. Integral to all renditions is the active involvement of the community members in assessing what needs to be done, the nature of existing problems, and how well solutions to address them are working and might work better. RAP also considers how the community might take responsibility for reporting on progress or other follow-up.

Most of what has been described here as RAP has been what anthropologists call "background ethnographic reconnaissance", i.e., geographic, demographic, socio-economic, and ethnographic characteristics of the populations in question; their health resources, housing conditions, etc. It has not been made clear what the researchers expect to learn from RAP, how rapid is rapid, how much one has to know about a community to use RAP effectively, or how RAP interviewers are trained. An additional goal of RAP (and one of the overall purposes of the IUNS project) is "to develop instruments for the assessment of food-health relationships amongst elderly people in a community which could be applied by such a community for its own benefit." But this raises additional questions about which communities are to benefit? when best to pursue RAP? and who should be the RAP reporters?

27.5.1 Which communities are of interest?

In these rapid ethnographic qualitative assessments of food habits of the elderly, it is never clear who is the "community" participating and for what purpose, other than to provide data for the nutritional scientists. Is the elderly a community? or is there community government leadership (as with the Australian Aborigines)? Or is the national government the "community" which will respond to findings? In studying the nutrition of the elderly, investigators are ultimately interested in the food habits of individuals within households, within communities. But they are also concerned with understanding the culture and concerns of community leaders (who may ultimately be empowered with knowledge and license to identify those households with elderly at risk of malnutrition) and with the society of health and nutrition providers as well as national (or other) policy planners. A simple inventory of who is funding and interested in these studies -and why - provides some preliminary background on the possible range of communities whose interests are ultimately the subject of any full study of food habits and the elderly.

27.5.2 When to pursue RAP

RAP is probably most useful for gathering background data; assessing problems; constructing appropriate questions and units of analysis; probing, testing, cleaning, and checking the results of questionnaires by observations, and monitoring findings; and finally, for evaluation and follow-up.

RAP acts at two levels: that of the types of questions or units of analysis used to organise data collection and that of the interpretation and probing beyond the responses on a survey instrument. It enters in the research methodology in the following points:

- Collection of background data and assessment of community resources and problems that involve community leaders, designates, and sometimes larger community samples in the initial design of the research instrument, its units of analysis and the types of questions that are appropriate to use in a particular setting to address the general problem (here the relationship between ageing, food intake, health, and care) in a meaningful way. At this stage it is also appropriate to consider how the culturally appropriate research instrument fits the international data collection objectives and instruments, so that cross-cultural, as well as intra-cultural comparison will be possible. Also, it is useful to be considering from the community's, as well as the national planner's or social scientist's points of view, how representative this community is, or how it differs systematically from other communities within the same and other cultural areas. This also allows one to consider questions such as: how generalisable are results? How widely, geographically or culturally, might the same instrument be used; what modifications might have to be made and why?
- Testing of the initial questionnaire (with local respondents). Checking by observation on the accuracy of responses to the questions. e.g., are men hanging around a canteen or

coffee shop while women are home working (where men report leisure and women work time)? If women are reported as not working, are they ever seen working? Check on the types and prices of foods available in the marketplace, the schedules of senior citizen programs and health clinics. These are some examples of the types of behaviours and observations that might be checked to see if they correspond to the responses of the elderly. Attendance at family or community rituals is another way to check on the accuracy of reports of social networks, and also to gain further rapport, and to supplement the initial responses to a questionnaire with additional formal or informal interviews with other significant persons in social networks.

- Follow-up and probing for further information on particular issues, such as low food intake, poor health, or lack of food availability in particular seasons. The Adelaide study is already engaged in this type of follow-up, where one team is interviewing and observing in the households of those elderly falling into the lowest decile of nutrient intake to discover what influences their food choices.

Each of the major categories of data addressed in these food habits surveys are appropriately probed through qualitative rapid assessment methodologies: food systems, health, and activities-function-social relations. Even though many of these studies did not use RAP significantly in their design for data collection, they can use RAP now to check findings, to set up monitoring mechanisms to observe whether or how conditions might be changing. In summary, while most of these studies have not begun with RAP, they could all benefit by ending with RAP.

27.5.3 Who collects the data?

RAP promoters often give the impression that collecting and synthesising information by observation and focus group interviews is somehow easy and that anyone can do it. Most persons probably can do it, after some training, and with considerable sensitivity to the nuances of the cultural context in which the information is being collected. But at the outset, there must be care to distinguish between what people say and what they do; and the reasons why any community member might want to talk with the interviewer versus the interviewer's scientific reasons for wanting to talk to the subjects.

There are appropriate or inappropriate people to collect data by RAP methodology. The characteristics of the individual are probably more important than the specific disciplinary background; sensitivity, community experience, and attitude are critical and not easily trained by book learning. Interviewers must know the culture they are dealing with. A mature person probably will do better interviewing the elderly and community leaders than some very intelligent but fresh young researcher. An additional consideration is selecting the right persons to interview, which again is a judgement call not only on the part of the interviewer, but on the part of the early interviewees, whose confidence in the interviewer will largely determine the

progress and outcome of the project. Community leaders may try to shape the outcome of a study to their liking or advantage. Those who volunteer may have their own view to promote, and one will want to get some representativeness within the community.

In summary, RAP provides an opportunity to check, expand, and interpret more carefully the data on each of the major categories of these studies of food habits and the elderly. It also provides an opportunity to involve the community more closely in the process of nutrition monitoring and intervention.

27.6 CONCLUSIONS

The overall objectives of these studies can be described as theoretical (the relationships among nutrition, health, lifestyle and longevity), methodological (how to learn in greater detail about these relationships and how to compare relationships across cultures), and practical (how to improve nutrition, both among the elderly and those in the process of becoming old, so that they might reach old age with greater well-being). The data also potentially provide insights into the evolution of diet, including future food, health, and nutrition demands on the part of the elderly in different regions and nations. The studies also offer ways to improve community understanding and empowerment through RAP or other community-based methods, which ultimately have as one of their aims to improve the ability of communities to assume responsibility for monitoring the nutrition of their elderly, and constructing appropriate nutrition interventions.

Taken together, these IUNS and Euronut-SENECA studies constitute a path-breaking effort to relate nutritional and non-nutritional factors to health outcomes and longevity. The studies have attempted to compare - using standard (though not exactly identical) protocols - food habits, health status, and lifestyle of selected populations of the elderly. Moreover, the populations for comparison extend across cultures and through time, in both developed and developing countries. The individual projects have also begun to generate and test hypotheses about the relationships between nutritional and non-nutritional variables in health outcomes. The value of these studies is not that they report nutrient intakes in the elderly cross-culturally. There are probably other studies that do this better. But what sets these studies apart are their attempts to integrate social factors into the analysis. In a global sense, these studies have taken a first step to identify an array of sound nutritional practices - nutrition taken in the very broad sense here to include food, health, and care - that promote health and longevity.

Diet and health are changing; the existing studies promise to provide directions for systematic discussion of their separate and joint evolutions. Nevertheless, cultural translation and comparability will continue to present difficulties, both for single points in time and over time. We may, however, be able to provide better keys to systematic dimensions of variation and to descriptions of food variety and its significance for health and well-being. Three goals of this review of anthropological methods to improve the design of future survey and questionnaires

are: (1) to provide an incentive to search for systematic dimensions of variations across geographic, class, and other categories, in the people's own terms and in scientific terms; (2) to provide superior standard interpretive instruments for describing dietary data and change; and (3) to provide some guidance on ways to link people's perceptions of nutrition - the linkages between food, health, and care - to our scientific designs of monitoring and interventions to ensure the good nutrition, health, and longevity of the elderly. In phrasing the problem in this way, perhaps nutrition scientists are not so distant after all from their "folk" counterparts.

27.7 SUMMARY

- This chapter highlights the limitations of the sociocultural information obtained in the IUNS study and what additional information would improve the identification of social factors that promote superior diet and health.
- The gaps identified in the IUNS data set include the following:
 - a) Hunger vulnerability or food security as dimensions of the elderly's food choices, health status, and lifestyle are not addressed.
 - b) Focus is on isolated individuals rather than individuals in social contexts.
 - c) Important risk factors/ indicators for food insecurity, malnutrition, or ill health or facilitating factors for superior outcomes, were not asked systematically.
 - d) Respondents were not probed regarding what they thought were the most important risk or facilitating factors for a healthy old age.
 - e) Sexual potency can be an important contributor to self-perceived "health" and "functioning" - this was not investigated.
- Greater use of anthropological methods, such as Rapid Assessment Procedures (RAP), to obtain a better understanding of community cultural norms, which may influence interpretation of the scientific protocol and cross-cultural comparisons.

For example:

- a) In adapting the core IUNS questionnaire to the culture being studied, which will ensure questions are appropriate and sensitive.
 - b) Defining 'elderly' according to local cultural norms.
 - c) Whether 'rural' or 'urban' designations are meaningful in local terms.
 - d) When relying on self-reported health conditions, perceptions of chronic diseases may not correspond to those used by modern medicine, but may have become labels for broader categories of folk illness symptoms.
 - e) For local definition of adequate social support, which will be influenced by living arrangements.
 - f) Cultural expectations of ability to perform ADLs and cross-cultural differences in living environments facilitating such behaviour.
 - g) For sources of daily food items or changes in weekly, monthly, or seasonal strategies (i) home production (ii) purchase (from markets or shops) (iii) foraging (fields, hills, forests or sometimes in others' homes) (iv) gifts. This provides evidence of food security and changes in consumption patterns over time.
 - h) How did survivors manage to avoid food insecurity and hunger vulnerability which shortened the lives of others?
- Even though many of the IUNS studies did not use RAP significantly in their design for

data collection, they can use RAP now to check findings, to set up monitoring mechanisms to observe whether or how conditions might be changing.

- A strength of the IUNS study, is that for the first time in a quantitative epidemiological study, a qualitative anthropological approach 'ethno-nutrition' as been incorporated in the study design. Ethno-nutrition describes the ways in which local peoples evaluate food and diet, and how diet is used to avoid or treat illness. This has been achieved by the inclusion of food and health beliefs, which were quite extensively collected in some centres, especially amongst Greek elderly using RAP. This information can be very useful when trying to interpret quantitative food intake patterns.

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CHAPTER 27

SOCIOCULTURAL CONSIDERATIONS IN

DATA COLLECTION AND INTERPRETATION

27.1 INTRODUCTION

27.2 COGNIZED VERSUS OPERATIONAL ENVIRONMENT

- 27.2.1 Demography -age: biological and social markers
- 27.2.2 Demography - rural-urban background
- 27.2.3 Function - health, activities, social support
- 27.2.4 Self-rated health, lifestyle and disability
- 27.2.5 Self-reported health conditions, use of medical care, and self-reported use of medications
- 27.2.6 Self-reported use of micronutrient supplements
- 27.2.7 Social factors - social activity, social network, living arrangements

27.3 FOOD HABITS

- 27.3.1 Food strategies
- 27.3.2 Food systems - cultural food classification and social distribution of food
- 27.3.3 Ecological and economic factors
 - 7.3.3.1 *Sensory factors (taste, texture, visual, etc.)*
 - 7.3.3.2 *Perception of physiological effects*
 - 7.3.3.3 *Cultural-symbolic categories*
- 27.3.4 Dietary structure
 - 7.3.4.1 *Core vs peripheral foods*
 - 7.3.4.2 *Meal patterns*

27.4 SOCIAL DIMENSIONS OF FOOD SECURITY OR HUNGER VULNERABILITY

- 27.4.1 Social factors
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- 27.4.3 Living situation

27.5 RAP: QUALITATIVE VERSUS QUANTITATIVE ISSUES

- 27.5.1 Which communities are of interest?
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