“Eating healthy”: Distrust of expert nutritional knowledge among elderly adults

Maka Suarez a,⁎, María Elissa Torres Carrasco a, Diana Morales b, Amy Kuritzky a, Victoria Abril-Ulloa b, Lorena Encalada b

a Center for Interdisciplinary Ethnography-Kaleidos (Universidad de las Américas – UDLA, Ecuador). UDLAPARK, Redondel del Ciclista, Antigua Vía a Nayín, Quito, EC, 170124, Ecuador
b Research group “Public Health, Food and Physical Activity in the Life Cycle.” Faculty of Medicine, University of Cuenca, Av. 12 de abril y Av del Paraíso. Campus Paraíso, Cuenca, Ecuador

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A B S T R A C T

Elderly adults in southern Ecuador often distrust nutritionists’ advice when implementing changes to their dietary practices. This distrust is no overt disregard for expert nutritional knowledge but rather the result of structural and situated practices that combine suspicion, misinformation, financial limitations, and family care. In this article, we examine eating practices among elderly adults in southern Ecuador in order to understand how nutrition distrust is constructed. In doing so, our aim is to understand how elderly adults incorporate—or not—expert nutritional knowledge into their eating practices. By ethnographically documenting daily eating practices among elderly adults in their homes, alongside expert nutritional discourses, our findings reveal that there is first, a local understanding of “eating healthy” connected to lived realities (e.g. farming practices, agricultural toxicity, age, education, polypharmacy, kinship ties), and second, a disconnect between expert nutritional knowledge and eating practices linked to how knowledge is produced and disseminated (e.g. power relations, scientific vocabulary, perceptions of health). Understanding how elderly adults build trust around eating can be a fertile ground for promoting more effective and suitable dietary advice among specific communities or groups like elderly adults.

1. Introduction

1.1. Background

In the last two decades, Ecuador, like many countries around the globe, has experienced a rapid nutritional transition that has shifted food intake from “traditional” and local foods to more industrialized—energy dense, higher in sugar and saturated fat—foods and animal subproducts (Popkin 2009; Shekar and Barry, 2020). Even while there continues to be a “double burden of undernutrition and excess body weight in Ecuador” (Freire et al., 2014) that mirrors nutritional problems elsewhere (FAO 2019; Monteiro, Conde, and Popkin 2004). Given this context, government initiatives have transformed over the past three decades in relation to local nutritional changes and international conventions and agreements. As Salazar-Marroquín and Santiago (2016) explains, social programs on nutrition in Ecuador during the 90s focused mainly on children under 5 years of age and lactating mothers, and even these efforts were sparse and intermittent. More cohesive strategies began in 2008 with Ecuador’s new constitution, which sought to improve data on health—and wellbeing more broadly—through surveys like the 2012 Health and Nutrition Survey, ENSANUT (Encuesta Nacional de Salud y Nutrición), even if these efforts did not include elderly adults (Freire et al., 2014). Part of the reason for this exclusion was that a 2003 campaign focused on eating (Alimentate Ecuador) included a subprogram on elderly adults, the PROAM (Project for Comprehensive Care of the Elderly—or Programa de Atención Integral al Adulto Mayor). The PROAM included a survey of elderly adults called—SABE or Health, Wellbeing and Aging (Salud, Bienestar y Envejecimiento) (Freire et al., 2010) that was later absorbed by the 2012 National Plan for Good Living (Plan Nacional del Buen Vivir). In 2018, the current government created a new program called My Best Years (Mis Mejores Años) focused primarily on elderly adults experiencing extreme

⁎ Corresponding author.

E-mail addresses: maka.suarez@kaleidos.ec, maka.suarez@udla.edu.ec (M. Suarez), maria.torres@kaleidos.ec (M.E. Torres Carrasco), diana.morales@ucuenca.edu.ec (D. Morales), amykuritzky@gmail.com (A. Kuritzky), victoria.abril@ucuenca.edu.ec (V. Abril-Ulloa), lorena.en calada@ucuenca.edu.ec (L. Encalada).

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propensity (Secretaría Técnica del Plan Toda una Vida 2018).

Despite these few targeted efforts, elderly adults continue to be a population group that has received little attention even as they face significant and unique age-related vulnerabilities. Official country data from the Ecuadorian national census, the ECV (Encuesta de Condiciones de Vida) has limited information on the general state of senior citizens and, at the local level, little data exists on this age group. A few studies focusing on nutritional status among elderly adults in Ecuador show increasing rates of obesity and overweight while also demonstrating a continued prevalence of malnutrition (Espinosa E, Abril-Ulloa, and Encalada T 2019; Freire et al., 2010). However, little is known about the actual eating practices of elderly adults in relation to how expert nutritional knowledge is (mis)understood. This article aims to fill this gap by ethnographically exploring eating practices and habits among elderly adults in southern Ecuador in order to understand how elderly adults incorporate—or not—expert nutritional knowledge into their eating practices. We examine local understandings of “healthy eating” and moral attributions to food choices, practices of care and eating in different households, and how older adults’ understandings of food are historically and culturally situated.

1.2. The project

Our objective was to understand the connections and disconnections between eating practices among elderly adults and expert nutritional knowledge, and how the latter is passed on directly or indirectly to elderly adults. What this means is an understanding of food and eating from two distinct perspectives: on the one hand, that of elderly adults “in their own terms,” and on the other, that of experts working in the field of nutrition in southern Ecuador. Our hypothesis in studying eating practices among elderly adults was that food is a constitutive and constituting element of care cultures, such that elderly adults relate to food through various forms of affective exchanges and relationships. These approaches are often at odds with formal nutritional knowledge. Understanding this disconnect between expert advice and the eating practices of elderly adults is important for nutrition practitioners as they attempt to communicate nutritional information and encourage dietary changes. Our multidisciplinary team included nutritionists, health practitioners, and ethnographers, allowing for a comprehensive understanding of food and eating.

Part of our team had previously conducted a survey of 400 elderly adults in the same geographical area where we conducted our ethnography. Through that first study, health practitioners and nutritionists on our team were able to document the current nutritional state of older adults. At the same time, however, they found that they knew little about the actual conditions of food consumption and local understandings of “eating healthy” among the same population. Thus, we argued for the need to examine the kinds of eating practices and nutritional perceptions that exist within the home, and how elderly adults build trust around dietary advice. Through an ethnographic approach, our research explored how elderly adults incorporated expert nutritional knowledge into their eating practices by looking at two sites in which knowledge about food and health is constructed. First, how elderly adults in southern Ecuador understood “eating healthy” through the way food was purchased, prepared, consumed, shared, spoken about, and perceived. Second, how nutritionists spoke about “healthy eating” from an expert point of view and how those insights travelled—or not—to local populations particularly in rural areas. We organized our results into three categories: i) issues of quantification, ii) food toxicity—in an area that has experienced rapid agricultural transformations in the last decade, and iii) a disconnect between expert knowledge and the household. Each illustrates the need for understanding elderly adults’ eating practices as historically and geographically situated.

2. Methods

2.1. Study design: an interdisciplinary collaboration

Part of our research group had previously conducted a descriptive analysis of 400 elderly adults in Azuay, a province in the highlands of southern Ecuador characterized by an Andean diet of grains—particularly hominy and other forms of maize—beans, assorted tubers, green vegetables, cereals like barley and oats, and since the 80s, frequent consumption of animal meats like pork, chicken, cow, and guinea pig. That first leg of the research examined elderly adults’ nutritional state from the perspective of medical and nutrition science. That initial survey collected information on elderly adults’ nutritional status and related factors (such as food insecurity, degree of dependence or BMI), which offer one side of the story behind what we eat (Billekoff et al., 2014; Scrinis 2013; Warin 2018; Yates-Doerr 2012a). Inspired by the work of Elizabeth F.S. Roberts to build bioethnographic collaborations (Roberts, 2017, 2021), the research group felt an interdisciplinary and qualitative follow up was necessary in order to: i) develop a comprehensive understanding of elderly adults’ daily lives and, ii) provide input for public policies that can directly impact healthy aging in Azuay. Thus, the research presented here is the result of an ethnographic approach to nutrition in southern Ecuador.

2.2. The ethnography

There are many ways to define ethnography given the myriad of contexts in which this qualitative and immersive method can be used. In this article we approach ethnography in its applied sense, as a way of offering insight into specific problems that cannot be understood only through surveys and measurements, and which might provide new information to improve nutrition in elderly populations (Tumilowicz, Neufeld, and Pelto 2015). Participants often take for granted the ways in which they experience the world—in this case their eating habits. Our research used participant observation, recurrent home visits, in-depth interviews, fieldnotes, and document analysis in order to understand how elderly adults eat, how they speak about food, and how they relate and give meaning to nutritional advice (Webster and Rice 2019). In what follows we detail our methodological approach.

2.2.1. Data collection

Three anthropologists and one nutritionist conducted the fieldwork in groups or individually. We chose four locations and 17 elderly adults (3 men and 14 women) to conduct participant observation in their homes, in-depth interviews, and follow-up visits. Some of the elderly adults had already participated in the first survey conducted by part of our team. Other participants joined through snowball sampling and through local connections—including kinship networks, friendships, neighbors, and health practitioners who put us in touch with their patients. We also interviewed 7 nutritional experts and 6 health practitioners in order to understand their views on changing nutritional paradigms in southern Ecuador and analyze their responses in relation to what we heard from elderly adults. All participants were extensively consulted on whether they wanted to participate and in what capacity they would want their information shared once anonymized. They also

1 It conducted the following tests for each participant: a nutritional status assessment (Mini Nutritional Assessment—MNA), International Physical Activity Questionnaire (IPAQ short version), functional status (modified Katz index), degree of dependence (modified Barthel Index), food security (Latin American and Caribbean Food Security Scale), and rate of depression (Yesavage Geriatric Depression Scale). Anthropometric measurements were also taken and used along socio-economic data from Ecuador’s national census (last one in 2010) to determine the general health status of elderly adults in the province of Azuay. These results have not yet been published.
signed a written informed consent that had been approved by University of Cuenca’s ethics committee. Participants were interviewed in their homes and could stop taking part of the research at any point. When participants agreed interviews were recorded and transcribed, and we also collected extensive fieldnotes. Any remaining identifiable information has been anonymized. All our interviews took place in the province of Azuay, and we included families from different socio-economic backgrounds and tried to interview both men and women when possible. In our first visit we presented the project and explained our intention to return for follow up visits, most families agreed to ongoing visits at mutually convenient times. However, given that women tended to have a greater role in food provisioning and cooking, and that our own team was all female, we were more successful in recruiting female participants than males.

We divided our material into four sites. Site one and site three are two small, rural agricultural towns of around three thousand people. They each have a local government-run health center providing general medical services free of charge. Besides elderly adult families, we also interviewed local physicians and nutritionists (often assigned to the region and not to the town) at these sites. Site two is Cuenca, the largest city in the southern part of Ecuador with a population of half a million. There we conducted participant observation with a group of retired school teachers who met to play cards, spoke to local nutritionists and health practitioners, and interviewed medical students who had been involved in conducting the first survey. Site four is a small peri-urban area where nearly thirty families—who all know each other—live along a strip of recently paved road. Table 1 summarizes our participants.

We also interviewed nutritionists and health practitioners at their posts in the rural countryside, at the local university, and virtually. In addition, we examined online information for ten nutrition programs at universities across Ecuador, mapping how programs were structured in terms of courses taught, academic staff formation, research possibilities and research interests by surveying undergraduate theses databases. Our main objective was to understand the complex relationships behind eating practices and nutrition science, including the ways in which expert nutritional knowledge is constructed, circulated, and applied.

We used semi-structured interviews, informal conversations, and textual analysis to trace the production and dissemination of nutrition science in southern Ecuador. Among our elderly adult interlocutors, we asked questions related to previous illnesses such as chronic diseases and their relationship to nutritional advice, including whether physicians appointed professional nutritionists or not in order to recommend dietary changes. We were particularly interested in how people assimilated and implemented nutritional knowledge afterwards. We inquired about everyday eating practices, about the labor implied in cooking as well as who decides on what kinds of foods are served. We accompanied most of our interlocutors in their food shopping routines, analyzing what products they chose and where they bought their food. In many of our visits we not only observed but also participated in the cooking process, learning about their understandings of measurements and food replacements. We asked about nutritional supplements, medical prescriptions, and other alternative forms of curing and caring for themselves and their families.

We were also interested in historical changes to their diets, ranging from their childhood memories to other important life events like marriage or parenting, as well as illnesses that could have affected their way of eating. The language people used to describe their eating practices were very relevant to our analysis, especially around the use of nutritional terminology like “nutrients,” “carbohydrates,” “proteins,” “vitamins,” etc. We also inquired about medical services and access to health care, how physicians and health specialists—including nutritionists—communicate their knowledge, and whether these services were provided free of charge, at their own expense, or through private insurance programs. We asked our interlocutors about the origins of nutritional information they found useful, and how it was produced and circulated among their own networks of friends, family, and carers. As we spent more time with our interlocutors, we were also able to speak with them about family and marital relationships, religion, care received and provided, retirement, and the experience of growing old in southern Ecuador.

2.2.2. Data analysis

During our seven-month ethnography we kept shared electronic files for our multidisciplinary team that included bibliographic analysis, detailed notes from our field visits, interview recordings and transcripts, and recordings and transcripts of our bimonthly research group meetings. To analyze this collection of data, we first used an inductive coding process which involved reviewing our transcripts and fieldnotes to collectively develop a set of codes and subcodes. These code categories included: food idioms, technical connotations around food, food infrastructures, food prohibitions, environmental conditions related to eating, farming or food shopping preferences, gender and class divides, and public policies affecting elderly adults. We then used this standardized set of codes to manually code our total of 28 ethnographic interviews, ensuring consistency and reliability between the different members of our team.

This manual coding was akin to computer program coding systems such as ATLAS.ti. The empirical material we collected is presented in the following section, drawing upon interview excerpts and informed by analysis of all our compiled content.

3. Results

Inspired by similar ethnographic studies of nutrition (Mroczkowska 2019; Abbots 2012; Smith-Morris 2016), our results are based on ongoing encounters with our interlocutors and a qualitative analysis of the data we collected over our seven months of fieldwork. We have divided our findings into three categories: food quantification, food toxicity, and knowledge disconnections.

3.1. Food quantification

I add a little bit of lard to make the refrito, but just a little bit (IR5, Site One, December 5th, 2019).

She indicated that she adds a little bit of lard to the refrito, but really it isn’t a little. She added a full wooden spoon equivalent to two or three tablespoons, (NR2 on the visit to IR5, Collective fieldnotes, January 2nd, 2020)

This exchange took place between a 69-year-old woman living at site one, a nutritionist, and an anthropologist. These were common events during our fieldwork, when NR2 pointed out to the anthropologist what she, as a registered nutritionist/dietitian, considered inaccurate quantities of different foods, be these fruits, carbohydrate rich foods—like rice, pasta, and certain legumes—or meat portions in relation to what we observed elderly adults cooking and consuming in their daily lives. The quantifications of food were near always mismatched. Here are two

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2 Our research project was reviewed and approved by the University of Cuenca’s independent Bioethical Committee for Health Research—COBIAS (Comité de Bioética en Investigación del Área de la Salud). Approval #2019-0119EO-1.

3 Refrito is a flavor base sauce added to many dishes in Ecuadorian cuisine. It is made of some kind of grease (lard, butter, oil) and sauteed onions, garlic, salt and achiote—a coloring condiment known as annatto in English. It is widely used in Andean meals.

4 We use the words nutritionist and dietitian interchangeably. The title conferred in university programs in Ecuador is nutritionist/dietitian.
examples.

- Afterwards IR2 invites me to eat some pears. They are smaller than the usual size of pears. I ask him how many he eats. IR2 tells me he eats 1 or 2 but says that his wife, IR3, eats something like 10. Then IR2 clarifies that he isn’t a big fan of fruits but IR3 hears this and replies from the back of the room “what about guabas? That he can eat the entire bean! And also mangos, he eats a lot of mangos.”

Fruits have sugar, like most foods we eat, so what we eat turns into glucose and insulin and helps control the level of sugar in our blood. So, it’s important to consume an adequate quantity. If you (referring to IR2) tell me you eat 2 pears, that’s adequate because the amount we can eat is the size of my fist (I show them my fist). You could even eat 3 given their small size… Now, if you (referring to IR3), tell me you eat 10, that’s too many, you should reduce the amount. (NR2 on a visit to IR2 and IR3. Transcript from interview, January 17th, 2020)

Table 1
Participants including elderly adults, nutritional and health experts at our four sites.

<table>
<thead>
<tr>
<th>Code</th>
<th>Gender</th>
<th>Age</th>
<th>Occupation/Income Source</th>
<th>Chronic Illness</th>
<th>Polypharmacy</th>
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<td>Site One</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>IR4</td>
<td>F</td>
<td>82</td>
<td>Subsistence Farmer</td>
<td>Hypothyroidism</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>High Blood Pressure</td>
<td></td>
</tr>
<tr>
<td>IR5</td>
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<td>69</td>
<td>Trader</td>
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<tr>
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<td>75</td>
<td>Trader</td>
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<td>Health worker</td>
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<td>n/a</td>
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<td>RN1</td>
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<td>Nutritionist</td>
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<td>n/a</td>
</tr>
<tr>
<td>Site Two</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IC1</td>
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<td>82</td>
<td>Former high school teacher</td>
<td>High Blood Pressure</td>
<td>yes</td>
</tr>
<tr>
<td>IC2</td>
<td>F</td>
<td>87</td>
<td>Former high school teacher</td>
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<td>no</td>
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<tr>
<td>IC3</td>
<td>F</td>
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<td>High Blood Pressure</td>
<td>yes</td>
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<tr>
<td>IC4</td>
<td>F</td>
<td>80</td>
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<td>High Blood Pressure</td>
<td>yes</td>
</tr>
<tr>
<td>IC5</td>
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<td>68</td>
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<td>no</td>
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<tr>
<td>S1</td>
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<td>n/a</td>
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<tr>
<td>S2</td>
<td>M</td>
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<td>Medical Student</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>S3</td>
<td>M</td>
<td>n/a</td>
<td>Medical Student</td>
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<td>n/a</td>
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<td>PHW1</td>
<td>F</td>
<td>n/a</td>
<td>Public health worker/Nutritionist</td>
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<td>UN1</td>
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<td>Nutritionist</td>
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<tr>
<td>UN2</td>
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<td>n/a</td>
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<tr>
<td>NR1</td>
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<td>n/a</td>
<td>Nutrition Researcher</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>NR2</td>
<td>F</td>
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</tr>
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<td>P1</td>
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<td>n/a</td>
<td>Physician</td>
<td>n/a</td>
<td>n/a</td>
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<td></td>
<td></td>
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<td>F</td>
<td>103</td>
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<td>none</td>
<td>no</td>
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<td>70</td>
<td>Farmer</td>
<td>Diabetes</td>
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<td>IR3</td>
<td>F</td>
<td>73</td>
<td>Housewife</td>
<td>Hypothyroidism</td>
<td>yes</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>High Blood Pressure</td>
<td></td>
</tr>
<tr>
<td>IR7</td>
<td>F</td>
<td>65</td>
<td>Farmer</td>
<td>High Blood Pressure</td>
<td>yes</td>
</tr>
<tr>
<td>IR8</td>
<td>M</td>
<td>84</td>
<td>None</td>
<td>Diabetes</td>
<td>yes</td>
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<td>RHW2</td>
<td>M</td>
<td>26</td>
<td>Health worker</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>RHW3</td>
<td>F</td>
<td>41</td>
<td>Health worker</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>Site Four</td>
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<td></td>
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<td>no</td>
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<td>IR10</td>
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<td>Subsistence Farmer</td>
<td>None known</td>
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<td>IR11</td>
<td>F</td>
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<td>Cash Transfer Program Beneficiary</td>
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<tr>
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<td>F</td>
<td>75</td>
<td>Subsistence Farmer</td>
<td>None known</td>
<td>no</td>
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</tbody>
</table>

* n/a stands for not applicable.

a We consider polypharmacy the use of 3 or more medications simultaneously. This includes drugs prescribed to overcome the side effects of another medication, which are often medically unnecessary.

Ethnographer 1: and have you read what is on this sheet? (referring to the "healthy plate" campaign the government is promoting in rural areas)

IR10: I have not read it; I do not know how to read very much. I did one year of schooling only.

Ethnographer 1: Did the information they give you help to eat differently?

IR10: not so much, they only give me the “bono” (cash transfer program) for Mom if I have that up there so that helps. (Ethnographer 1, interview transcript. February 15th, 2020).

What we found is that people’s own ideas of healthy eating were intertwined with how they associated cooking and eating to practices of care. Not uncommonly people explained that “tasty foods” were those made with lard, and that advice from physicians and nutritionists on reducing or curtailing lard consumption made for a “tasteless” meal. For many of the people we worked with, their experiences of formal nutritional knowledge were based on what local health practitioners advised (sometimes nutritionists or physicians) at the local health center. This advice mostly consisted of prohibitions on various staple foods in their current diets, or it prescribed diets or foods they were either unfamiliar with or had no access to. Items such as rice, pork meat, lard, potatoes, some fruits, and sweets were either discouraged completely or instructed to be heavily reduced from their diets. In other cases, information was not actually communicated in a way that was applicable to people’s daily lives—like the healthy plate campaign mentioned above.

5 Guava or guama is a South American fruit, also known as ice-cream bean or Inga edulis. Not to be confused with guava, which is a different kind of fruit.
Another important aspect of our findings was the notion of “eating healthy,” which we came to realize was inextricably tied to agricultural practices in the region. Among our interlocutors, rural elderly adults often cultivated part of their own food or bought it from “trustworthy” providers—as they put it—who were usually neighbors or family. In contrast, urban elderly adults bought their food at local markets, neighborhood stores, or supermarkets. Many of the areas where we conducted ethnography were outside the urban limits of the city of Cuenca; areas which had experienced a decade long agricultural transformation characterized by an increase in greenhouse farming, heavy use of pesticides, and rapid land erosion. These agricultural shifts had transformed food production in the area and notions of “eating healthy.”

- Nowadays we’re eating chemicals, children come sick out of the womb because of chemicals (IR1, Site Three, 17th January 2020).

There is vast literature on the negative side effects of pesticides in Ecuadorian agriculture (Cole et al., 2007; Grozco et al., 2007; Paz-y-Mino et al., 2002; Sherwood et al., 2013). Though there are no official figures on the increased prevalence of cancer in the area, many of our participants were highly aware of the connection between pesticides used in agriculture and cancer. They often differentiated between “healthy” and “unhealthy” products among what they themselves cultivated.

- What you sell, does it have pesticides? (NR2, Site Three, 17th January 2020)
- All of it, all of it (IR3, Site Three, 17th January 2020)
- Also your own produces [speaking about the ones in their garden]? (NR2)
- Noooo, none of those. Why, you ask? Because my husband is an enemy of spraying (IR3)

To understand IR3’s contradicting views—which we encountered many times throughout our fieldwork—we need to situate agricultural practices in southern Ecuador within the region’s broader agribusiness transformation. As many of our interlocutors remembered, their childhoods were marked by poverty but also by easy access to grains and certain foods. Nowadays they tended to receive an income but sold everything they produced.

- Food in the past was very different, there was a lot of poverty, everyone suffered from poverty. There was no money but...we never lacked any grains. There were beans, corn, peas, fava beans, wheat, barley, we had everything. But then again, there was no money for salt or sweets (IR1, Site Three, January 14th).

Today their lands are too small to be profitable and they are forced to sell most of their products. At the same time, there has been a shift from a mosaic of agricultural production to a monoculture system over the last decade (C-CONDEM, 2019), which directly affects the ways in which elderly adults eat. These shifts have produced new understandings and local idioms of what it means for foods to be “healthy” which are directly linked to the use of pesticides in agriculture. Thus, even though our interlocutors knew fruits and vegetables were part of an adequate diet, they preferred to avoid some of them (like tomatoes, apples, or cucumbers) or were adamant about peeling off the skin. Referring to products as “healthy” (sano) or “natural” meant they were free from pesticides. Unlike the nutritional experts they encountered who often approached the concept of “healthy eating” in light of scientific dietary needs, our interlocutors did not see it as something that could be disconnected from the toxic foods in their immediate surroundings, creating a conflictive view of fresh vegetables and fruits in their diets.

3.2. Food toxicity

- The idea is for people to be free to choose what they can eat while being conscious of how much they eat (NR2, interview, April 4th, 2020).
- When I graduated there was a different approach and that’s how it had been ever since the profession was formally established here [in southern Ecuador]. It was all about food prohibitions and limitations (UN1, interview, March 30th, 2020).

The excerpts are from nutritional experts we interviewed. They mentioned changing paradigms in the discipline during its twenty-year history of being practiced in southern Ecuador. The discipline had a strong focus on quantifications of the body and food from the onset, as well as prescriptive methods that would improve individuals’ health through strict modified eating habits. Much of these views are no longer applied, at least not in the same manner (Scrinis 2013). Nowadays, disciplinary approaches are changing and a more comprehensive, adaptive, and individualized view of nutrition can be found among younger nutritionists. Nonetheless, elderly adults continue to perceive expert nutritional knowledge as restrictive and a limitation to their ways of life, linked to decreased enjoyment of food and its social aspects despite the growing negative health effects associated with a poor diet. Thus, they often distrust and disregard expert advice.

- What do nutritionists tell you at the health center? (E1)
- They’ve given me diets that I haven’t followed...you need too much discipline and avoidance of all starchy foods. I am a little addicted to starch... But on this other diet I am really happy because I can go out at 1pm and eat anything I want (IC1, Site Two, January 22nd, 2020). Informal nutritional knowledge among elderly adults, like in IC1’s case, circulated through their own social networks, disconnected from formal or scientific expertise. This increased the distance between health professionals’ approaches to nutrition and popular insights to healthy eating. Nutritionists often framed the problem as ignorance on the part of elderly adults, but our material showed that they were aware and agreed—at least partially—with expert knowledge, but they chose not to follow this advice or simply disregarded it. This, we find, happened for at least four reasons: i) “old customs,” for instance elderly adults’ unwillingness to eat at the same time every day or eat without salt, or fear of missing invitations to eat outside with friends and family; ii) trust relations based on kinship or friendship rather than expertise; iii) long term effects versus short term experiences, meaning the difference between nutritionist advice and tangible consequences; and iv) hierarchical forms of knowledge (including medical advice) that make it difficult for elderly adults to comprehend their own diseases and nutritional needs. The following quotes exemplify each of these situations.

1) - Of course they give us different instructions! They say we should eat at the same time every day, but in practice that’s not possible... maybe because we’ve never done this in the past, or maybe we just have bad habits (IR7, Site Three, February 5th, 2020).

2) - And who recommended that you follow this diet? (E1)
- My brother who is a doctor [surgeon] got it from my sister who learned it from her daughters who live in the United States. They don’t need the diet because they’re thin, but friends who are very fat, they are the ones who tried this diet first, and they’ve seen really great results. They lost a lot of weight so that means the diet is effective (IC1, Site One, January 22nd, 2020)

3) - Physicians prohibited that I eat lemon because they say it is acid, and that I have chronic gastritis. So, they said that I shouldn’t eat acid fruits, even worse lemon! But I love lemon, I love everything with lemon. Soup with lemon, rice with lemon, meat with lemon... And it does nothing to
me, so I don’t know, maybe we can’t know if I have it or not... If I had gastritis lemon would cause harm, right? But it doesn’t... They (physicians) keep prescribing omeprazole at the health center, but I’m not using it so I don’t go [pick up the meds] anymore (IR3, Site Three, January 17th, 2020).

4) - They don’t know how to combine different foods, they don’t know the significance of a macro and micronutrient, of how many portions they should eat, all of that. Even though we teach them these things, we conduct workshops with them about how many servings of each thing they should eat, but nothing sticks. They leave and around the corner they’re already eating their potatoes and everything else. Then they come when they get truly sick... I beg them to follow my advice and maybe they do it for one week or two weeks. It’s really hard; elderly adults are like children! (RN1, Site One, January 22nd).

In southern Ecuador eating is a social event, and food preparation and consumption strengthen and deepen social relations. It is not uncommon, even in larger cities like Cuenca, for families to eat lunch and dinner together at home every day. On weekends, extended families get together to eat and socialize over a homemade meal. As Abotts (2011, p. 208) highlights “the argument that the exchange of foodstuffs, among other objects, enmeshes social groups, households and individuals into a web of relations founded upon obligations and reciprocity is a common theme in the Andean literature and beyond (cf Sahlin 1972; Searles 2002).” Thus, eating is less related to measuring or counting, and more so deeply intertwined with giving, gifting, and caring, forming bonds of kin and reciprocity among those who eat together. In this context it is hard to keep restrictive diets or ask for “special” treatment. Paired with ideas of masculinity and excessive eating (and drinking), no man (but also women) wants to “diet” or restrict their intake. Even among elderly male adults this was viewed as a weakness and not a way of caring for one’s health or body. Expressions like “I’ll die of something anyway so what’s the point of dieting?” or “I eat until I’m full, that’s what’s healthy” were not uncommon expressions among our male participants. At the same time, nutritional experts’ disapproval of their eating practices was read as criticism for their way of life—including their sense of masculinity. The distance and exclusion elderly adults report feeling from their own health conditions (such as diabetes or high blood pressure) also hinders efforts to embrace different eating habits. Our empirical material shows there is still a long way to go in closing the gap between expert nutritional approaches to food and how this advice is applied in the day to day lives of elderly adults. We conclude with some final reflections on the state of nutritional knowledge in southern Ecuador and possibilities going forward around our three key findings: issues of quantification, food toxicity, and the disconnect that currently exists between the discipline and elderly adults’ eating practices.

4. Discussion

Our findings revealed that our participants’ approach to food and eating was rarely conceived of in the way nutritional experts expected and hoped for, particularly around issues of quantification. Many authors have argued for the need to look beyond quantifications in nutrition science (“a calorie is a calorie”) through interdisciplinary, critical approaches to nutrition (Broad and Hite 2014; Garth 2019; Gracia-Arnaiz 2010; Biltekoff et al., 2014; Perez Gil 2006), as well as by going beyond individualized understandings of the self (Yates-Doerr 2012a). Among the nutritionists we spoke with, we also found a changing tide in the profession where quantifications and quantification were being thought of differently. One of the benefits of conducting ethnographic research, as our nutritionist colleagues explained, is the ability to bridge the gap between what experts aim for and people’s actual eating habits. The hope is to reduce mortality rates as well as the prevalence of chronic illnesses—like diabetes and high blood pressure, the second and fifth causes of death among elderly adults in Ecuador (INEC 2019). The findings, however, have an impact well beyond the context of Ecuador, and they connect to long standing debates on how and why we eat and on the complex relationships between foods and our bodies. As Scrinis (2013, 6) explains referring to nutritionism (nutrition reductionism), there has been great advancement in scientific understandings of nutrients and their effects on our bodies, however “the role of nutrients has often been interpreted outside the context of the foods, dietary patterns, and broader social contexts in which they are embedded.” As he explains there is great influence of food manufacturers, particularly starting in the 90s, into how we relate to nutrient content and how diets are designed, often more concerned with the quantity and percentage of a given nutrient or fat, rather than on the quality and processes of that food. This resonates with changes in the medical field in the last half century where rapid increases in prescriptions are related to changing definitions of risk and perceptions of inherently ill—rather than healthy—bodies forcing us to consume more medication due to the growing influence of pharmaceutical companies in clinical trials (Dumit 2012).

Theodore Porter (1996) documented in the early 90s the history of quantitative methods, highlighting that much of the success of quantification rests in standardization. “Its appeal has been the appeal of impersonality, discipline, and rules” (Porter 1996, p. 32). He does not deny the usefulness of scientific knowledge built on numeric standards, but explains the agreements that are necessary for these particular standards—and not others—to become dominant. As he mentions “crucial in determining modes of quantification are the forms of expertise and power relations within a work force” (Porter 1996, p. 34). This resonates with varying approaches to measurement and numerical representations where “Indicators are a political technology that can be used for many different purposes, including advocacy, reform, control, and management” (Merry 2011, S92). This has been directly addressed in the context of nutritional knowledge, critically approaching how food is spoken of—and often distort—in official guidelines or common parlance when it becomes only about quantifying bodies, foods, nutrients, etc. (Mudry 2009). Standardization has also shaped nutritional policies by providing a resource for comparing individuals, but at the same time, it has produced moral comparisons of different social groups creating dominant views on the “right” kinds of subjects (Biltekoff 2013).

This all influences how we approach nutrition and whether we are caring for a body or trying to control its behaviors. Jessica and Allison Hayes-Conroy and Hayes-Conroy (2018, 236) point to critical studies of nutrition (or critical dietetics) as an important source of inspiration for thinking beyond numbers. As they point out, critical nutrition “understands bodily nourishment as something that is deeply embedded in daily life struggles for power, resources, recognition, and meaning. Accordingly, critical nutrition paves the way for new discussion topics that were previously unfamiliar to nutrition—for example, questions of rhetoric and scale, attention to history and politics, concerns over inequality and economic process, and a focus on the complexity of human bodies.” As we learned, for many of our participants, their experiences with receiving nutritional advice were disquieting and unsettling because they often felt scolded for the way in which they ate. Even though many recognized the need for certain changes—particularly around soda or salt consumption—and the need for more disciplined eating, they found it hard to replace rice with salad, eliminate lard from their “tasty” cooking, or avoid eating pastries all together. These findings resonate with nutritional studies focused on ethnic minorities in the UK where participants “did not like the format and content of some health education messages relating to their traditional foods. While messages around reducing portion sizes were regarded as feasible, messages involving the removal of their traditional food were heavily criticised.” (Asaman et al., 2019, p. 14). Among our interlocutors, there was also the issue of time, economic resources, and caring obligations. Many of the women we spoke to cooked for their extended families (who lived with them or who joined them for lunch or...
dinner) and it was hard to prepare different meals for those with specific restrictions—who often did not like the alternative menu anyway. Even if meals were prepared only for a couple, or a mother and daughter living together, their menus were usually the same due to a lack of time, energy, and to avoid food waste—not unlike older adults in other contexts where living alone has brought up many of these issues and has dramatically changed the meaning of food and eating (Whitelock and Ensaaff 2018; Sidenvall, Nydahl, and Fjellström 2000).

Our findings resonate with other studies tracking disconnects between the way individuals perceive expert nutritional advice vis-à-vis their daily eating habits (Yates-Doerr 2012b; Biltekkof et al., 2014; A. Hayes-Conroy and Hayes-Conroy 2016). The way our interlocutors reacted to the reprimands of nutritionists translated into a general distrust of expert knowledge and dismissal of part—or all—of their advice, finding comfort instead in the informal nutritional knowledge imparted by neighbors, friends and family. It was common for our participants to share and practice “dieting” adjusted to their eating desires, which stood in contrast—and sometimes contradicted—nutritionists’ or physicians’ advice but which provided a sense of fulfillment and wellbeing they found more rewarding. The conversations that arose from these findings among our interdisciplinary team suggest the need for a wider, critical, and interdisciplinary engagement with nutrition as a discipline in the context of Ecuador. Other studies reflect on the need for changing definitions of “healthy eating” which account for their particularity rather than their universality across social groups (Ron telap et al., 2012). This helps elucidate specific limitations and constraints among different people for improving their nutritional intake, including how external practices affect their perception of healthy foods—be these food manufacturing or agricultural production methods (Skuland 2015). This means thinking critically about how to communicate nutritional advice in ways that avoid confusions and anxieties that can arise from misinformation (Dodds and Chamberlain 2017). It also means an awareness of the situated nature of nutritional knowledge, recognizing how nutrition fits within local realities, such as changing agricultural practices and the toxicity faced by many people living in rural areas (Martinez Valle 2017).

Many authors have long studied the effects of globalization—including the intensification of agricultural food systems (Mintz and Du Bois 2002; Cole et al., 2007; Otero 2018) and social understandings of eating (Gracia-Arnaiz, Demonte, and Kraemer 2020; Winson 2014) as explanatory elements of increasing negative health consequences across the world. In the context of Ecuador, Sherwood et al. (2013, 8) describe how modern food policies “have explicitly sought to reduce food security and malnutrition by making food abundant and inexpensive. In so doing, the country has manufactured unwanted, yet highly durable second order problems—the new, previously unimaginable materialities—in the forms of population level pesticide poisonings and overweight/obesity.” However, many examples of good practice already exist in Ecuador, particularly looking at the experiences of agroecological small farming, which as (Deaconu et al., 2021, p. 10) explain, “may also be a path for smallholder farmers living in marginalized communities to achieve healthier nutritional outcomes.” While more institutional (and social) recognition and governmental support for small farmers is needed to increase the availability and accessibility of agroecological production, these networks are particularly strong in our area of study. Moreover, these localized grassroots efforts are global in their implications; they demonstrate a way forward in which ideas of “healthy eating” can derive their meaning from local realities, taking into account how questions of food intake are always intertwined with the historico-political nature of food systems. They can help build more positive views of old age that move away from parallels between sickness and old age, and focus on improving attainable healthy standards based on the real possibilities of the people we work with as (Bardach, Schoenberg, and Howell 2016) suggest. They point to a move away from top-down policies on nutrition and invite us to consider socio-economic and cultural understandings of food and eating in designing public policy, educational approaches, nutritional guidelines, and advice to elderly adults in the context of Ecuador and beyond.

5. Conclusion

First, we see that changing views in the discipline—like the idea of the nutrition transition (Monteiro et al., 2019; Popkin et al., 2012)—as well as an expanded professionalization and standardization of the practice through the growth of nutritional programs in Ecuadorian universities and nutritionists educated abroad, are pushing the boundaries of expert nutritional knowledge. Nonetheless, there continues to be a long-standing view of the body as an object of study that can be understood through quantification. Here, we argue for a view of nutrition that goes beyond quantified servings and quantifiable bodies, large countrywide metrics and narrowly-defined disciplines. We propose to follow Yates-Doerr (2012b) in thinking about nutritional expertise’s possibilities through caring for (elderly) bodies rather than controlling them through food.

Second, we believe that changes in eating habits among elderly adults need to be coupled with an understanding of the broader forces of globalization and trade liberalization which have shifted agricultural practices (Hawkes 2006) increasing chemical use and contributing to how people perceive toxicity in relation to their food. We also need to carefully analyze the growing interests of food industries and pharmaceutical companies, rapidly changing local socio-material conditions, and the kinship and care relations intertwined with how people relate to food.

Finally, we argue for the importance of situating nutritional knowledge and its scientific practice within the lives of individuals and communities at the other end of these global flows of nutritional information. In this sense, we argue for an ethnographically grounded approach to nutrition as a way of expanding how we understand both deep-seated eating practices and nutritional expert knowledge. We are hopeful that ongoing shifts in the way nutrition as scientific knowledge is practiced by professionals in southern Ecuador can continue to incorporate mixed methodological approaches that help bridge the gap between experts’ take on nutrition and the way elderly adults live it on a daily basis.

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Ethical statement

1) This material is the authors’ own original work, and it has not been previously published elsewhere.
2) The paper is not currently being considered for publication in any other journal or academic venue.
3) The paper reflects the authors’ own research and analysis.
4) The paper properly credits the meaningful contributions of all authors and scholars who have taken part of this research.
5) The results are appropriately placed in the context of prior and existing research.
6) All sources used are properly cited.
7) All authors have been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.
8) Our research proposal was reviewed and approved by University of Cuenca’s independent Bioethical Committee for Health Research—COBIAS (Comité de Bioética en Investigación del Área de la Salud) - Approval #2019-0119EO-I.
Declaration of competing interest
None.

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