Surveyor's manual on the online application of the "NOVA 27 UPF Categories Tracker" and the "24-hour reminder" survey, multi-step method

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Introduction

This manual was created to train the surveyors who will be in charge of applying the electronic versions of the "NOVA 27 UPF Categories Tracker" and the "24-hour reminder multi-step method" questionnaires.

Aspects to be considered by the surveyor

The first aspect is considering the interviewer's behavior during the interview. They must keep in mind that, during interaction with the interviewee, their behavior will influence the interviewee's behavior and how they answer the questions. Thus, it is necessary to consider the following recommendations.

Privacy and place. At the beginning of the interview, ask the interviewee to ensure that no third parties are present; and if possible, keep them isolated during the interview by closing the interview room to avoid noises or possible interferences.

• Remind them that the interview will las approximately 40 minutes and includes 2 questionnaires.

• First, an explanation of the information to be collected in both questionnaires and the duration of each one will be given. The first one could last between 5 and 10 minutes; the second, approximately 35 minutes. An explanation will be given that a photographic atlas of standardized foods and beverages will be used as supporting material to allow the respondent to identify the food, dish or beverage that most closely resembles what they consumed the previous day.

Surveyors' attitude. During the interview, the surveyor must apply the following recommendations.

• Be friendly. At the beginning, the surveyor should greet and explain the objective of the interview. They should speak comfortably, using clear, appropriate and paced language.

• Be respectful. Respect for the interviewee must be shown always and address them looking at them in the eyes in a horizontal dialogue with the interviewer. Survey application should appear to be a normal conversation.

- Be observant. Be observant and write down any event that affects the interview process and the data collection.

- Be an examiner. Thoroughly examine data provided by the informer. Do not assume to know the answers. Always do research with help from the "Photographic Atlas of Standardized Foods and Beverages".

- Be neutral. The interviewer must be neutral when asking questions to probe aspects related to food consumption.

> The interviewer should never influence answers when asking questions. Do not mention the names of possible food consumed, this may lead the interviewee to change their answer to please the interviewer. For example, never state a question this way: "Did you add sugar to your coffee?" or "Did you use sunflower oil to fry the scrambled eggs?"

- Be discreet. At all times during the interview, the interviewer should be very discreet and avoid verbal, facial or bodily expressions when examining the type and amounts of foods prepared and consumed by the interviewee.

> For example, do not show discomfort when having to repeat questions because the interviewee does not understand. It is inappropriate to show surprise due to the amount of food ingested or the portion size served or consumed.

- Be patient. Patience is necessary. Do not ask questions and speak endlessly. Pauses will allow the interviewee to think clearly and feel more confident.

- Be ingenious. Be creative to collect the necessary information regarding the weight of foods used in preparations and regarding portions served and consumed. To this end, the interviewer should be able to adapt to the conditions of the interview, to the food available to the interviewee and to the examples that can be used from the "Photographic Atlas of Standardized Foods and Beverages" for estimating portions and volumes consumed and to identify the type and size of utensils.

- Be thorough. Do not be pleased with quick answers, and even less so with shallow ones. Inquire thoroughly about portion sizes reported by the interviewee, as well as the volume and weight of products selected from the "Photographic Atlas of Standardized Foods and Beverages".

> The surveyor's responsibility is to collect reliable and truthful data, by completing the information in a comprehensible manner during the interview.

First contact with the interviewee. Before the interview

First contact aims at making an initial approach to invite them to take part in the study as respondent. The user will be explained the details of their participation and the duration of the interview. It will also be explained that the interview will be online via Zoom, for which a link will be provided that will activate at the time and date of the interview. They will be informed regarding the "Photographic Atlas of Standardized Foods and Beverages", which will be used as support material to refine their answers.

If they accept participation, a date and time will be scheduled for the interview.

Interviewer's training

To apply the "NOVA 27 UPF Categories Tracker" and the "24-hour reminder multi-step method" tools, interviewers must be trained and standardized prior to the application of both questionnaires. This training is essential to reduce errors and biases in data collection and variability in recorded data.

If the number of interviewers needed is greater than 2, pre-selection of at least 3 interviewers is recommended to select the 2 best interviewers after training, and to have additional staff in case one of the interviewers has to be replaced if they stop participating in the survey.

In addition to training surveyors on how to conduct the interview, record the data, verify the record and save the information collected, the first task of the training should be to ensure that surveyors master the NOVA classification and learn to identify foods according to their degree of processing. When mastering the NOVA classification, surveyors will be able to assign the reported product to the appropriate category. To this end, the list of "Foods, preparations and beverages consumed in Ecuador according to the NOVA classification" is recommended (1).

For this training, the studies carried out in Brazil on the NOVA system (2, 3) and the food composition table for Ecuador, which was updated for this study (4), are also recommended.

The training session to identify foods based on their degree of processing should be theoretical and practical, and should be conducted after the surveyor's general training. For this training, it should be noted that, although NOVA classification is easy to understand, its application requires practice when interpreting the product's label, nutritional composition and ingredients used in production. Also, the surveyor must be able to identify, in the local market, products that appear to be made with fresh foods, but that —being produced by the industry— contain ingredients only used at industrial level to improve color, appearance and taste, etc. In this case, these are ultra-processed products.

At the end of training, surveyors should be familiar with the preparations usually consumed by the population, which may be evaluated with help from the "Photographic Atlas of Standardized Foods and Beverages" based on appearance, consistency and portions. Thus, the surveyor will help the interviewee remember food consumed the previous day.

Interviewers, after completing training, should be able to recognize and help the interviewee recognize the different foods, based on the NOVA classification of 4 groups (1-3).

Application of the electronic questionnaire

Both surveys are presented in the same questionnaire, made up of 4 sections:

• "Informed consent form";

• "Respondent identification";

• "NOVA 27 UPF Categories Tracker";

• "24-hour reminder multi-step method".

This document presents the questionnaires in Word format. For its electronic application, it must be translated into a user-friendly software, as used in the Ecuador study, which was the Kobo Open Data Kit program (5).

Informed consent

The interviewee will be contacted on the date and time scheduled for the interview. Before applying the first questionnaire, the interviewee will be asked to read the "Informed consent form", which must have been previously approved by an institutional review board (IRB) after the study, itself, has been approved. The text in this document may vary according to the requirements from the specific committee and the form of application (online or in-person). Likewise, the way to record agreement or disagreement to participate may vary. After its reading, consent will be required to take part in the study. If participation is accepted, the survey will begin immediately.

Then, the respondent will be informed that 2 questionnaires will be administered during the interview, also the time it will take to answer each one and the importance of answering as accurately as possible, when considering the question being asked. They will be informed that the first questionnaire will last 5 to 10 minutes and the second will last approximately 35 minutes.

They will be informed that the purpose of this study is to identify the foods consumed on the day before and to identify which of these are ultra-processed and which are not; furthermore, that consumption refers to what they consumed the previous day from the moment they woke up until the moment they went to bed. They will be asked to answer as precisely as possible, when considering the question being asked.

Lastly, they will be informed that —during the interview— support material will be used in the form of a "Photographic Manual of Standardized Foods and Beverages", which consists of a set of photos of different products that will be shown to the interviewee when they report what they consumed on the day prior to the interview; this will help them inform with greater precision size, volume or amount of product consumed the previous day.

Interviewee identification

After completing the "Informed consent form" and after providing the aforementioned explanations, the first part of the interview will begin: interviewee identification. Their phone number, age in years, months and days, sex and education level (elementary, high school or higher) are recorded. Next, the date of the interview and the weekday when the interview took place are recorded.

Table 1. Interviewer ID

Interviewer ID							
Phone number							
Age (date of birth: yyyy-mm-dd)							
Sex:	Female			Male			
Education:	Elementary						
	High school						
	Higher education or university						
Date of survey (yyyy-mm-dd)							
Day on which diet information was collected	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Application of the "NOVA 27 UPF Categories Tracker"

After completing the "Respondent identification", the "NOVA 27 UPF Categories Tracker" interview will begin. The interviewee is reminded that the application of this questionnaire will take approximately 10 minutes and does not require an educational level from the interviewee, nor great memory. It will be pointed out that this is a quick list that refers to what was consumed the previous day, from the moment the interviewee woke up until the moment they went to bed.

> **Note for the interviewer:** The list of groups and subgroups reflects the type of each product consumed. Therefore, if the food informed by the interviewee does not appear on the "Photographic Atlas of Standardized Foods and Beverages", the answer will be recorded following the NOVA subcategory that most closely resembles. An unlisted ultra-processed product is assumed to belong to the same category as the one that is listed and their similarity is obvious.

The questionnaire records the consumption of the 27 subcategories in 3 groups: (a) beverages consumed the previous day with 8 subcategories, (b) foods consumed as part of regular meals (with 12 subcategories) and (c) snacks consumed at any time during the previous day (with 7 subcategories).

When conducting the interview with the "NOVA 27 UPF Categories Tracker", the order of the 3 product categories must be followed, ensuring that the answers are as

accurate as possible. Find support in the "Photographic Atlas of Standardized Foods and Beverages" if necessary.

Table 2. "NOVA 27 UPF Categories Tracker"

Tómese unos minutos para recordar todos los alimentos y bebidas que consumió ayer, desde que se levantó hasta que se fue a dormir			
	See this list of beverages and tick off all the ones you ate yesterday	See this list of foods and tick off all the ones you ate yesterday	See this list of snacks and tick off all the ones you ate yesterday
Tick off the foods consumed yesterday	01. Sodas, soft drinks, regular or light	01. Sausage, chorizo, French fries and sausages, hamburgers or nuggets	01. Bagged chips or crackers or any other type of branded, salted and bagged snack
	02. Fruit-flavored or prepared from powdered mix beverages or jello	02. Seasoned and pre-cooked meats	02. Sweet cookies with or without filling
	03. Bottled or Tetra Pak fruit-flavored beverages	03. Ham, salami or mortadella	03. Cereal bars
	04. Bottled or Tetra Pak chocolate beverages	04. Canned menestra	04. Industrial cake, not homemade nor muffin, brand-name cake or powdered pancake or cake mixes
	05. Bottled or Tetra Pak tea or coffee beverages prepared from powdered mix	05. Sliced bread or industrial bread	05. Polito or similar non-homemade nor artisanal ice cream
	06. Any type of flavored yogurt, including liquid yogurts	06. Margarine	06. Chocolate bars, bonbons, candies and chewing gum
	07. Flavored milk	07. Mayonnaise, ketchup or mustard	07. Packaged breakfast cereals
	08. Powdered milk	08. Bottled salad dressing	0. Did not eat yesterday any of the foods on this list
	0. Did not drink yesterday any of the beverages on this list	09. Frozen or fast-food restaurant French fries	
		10. Humitas, quimbolitos, cassava bread, muchines, plantain empanadas, pre-cooked or frozen bonitísimas	
		11. Frozen or fast-food restaurant pizza	
		12. Noodles or spaghettis or instant powdered soups	
		0. Did not eat yesterday any of the foods on this list	

Once the application of this questionnaire is completed, the interviewee is thanked and asked to remain online (when the interview is online) to continue with the "24-hour reminder multi-step method" questionnaire.

Application of the "24-hour reminder multi-step method" questionnaire:

The "24-hour reminder multi-step method" questionnaire will be administered once the "NOVA 27 UPF Categories Tracker" is applied. The purpose of this questionnaire is to validate the "NOVA 27 UPF Categories Tracker" in the population under study to estimate the caloric contribution of ultra-processed foods in the diet of the studied population.

The application of the "24-hour reminder multi-step method" questionnaire will last approximately 35 minutes. It will allow the collection of data on food consumption for

the same time period from the previous day, from the time they wake up until they go to bed. The interviewee should have absolute freedom to report everything they ate, regardless of the time or place they ate it.

Table 3. "24-hour reminder multi-step method"

| Tell me everything you ate and drank yesterday; from the time you got up until the time you went to bed.

(Allow the interviewee to talk about all foods and beverages consumed. Do not interrupt. After they finish, ask them to define the type of cooking used for each food. Example: roasted, fried, cooked, others).	Type of cooking	Meal time	Location of food consumption	Unit according to the Atlas	Amount consumed	Type of food	Product brand	Categorize according to NOVA following the survey
	roasted, fired, cooked,	1. bb	1 at home	grams (g)	Portions	Light		1. minimally processed
		2. b	2 office					
		3 .mm	3. neighborhood store	mililiters (ml)		Regular		2. cooking ingredients
		4. l	4. restaurant					
		5. ma	5. street vendors	Atlas code		Does not apply		3. processed
		6. d	6. fast-food restaurant					
		7. ad						4. ultra-processed
Multi-step								
step 1	2	3.1	3.2	4.1	4.2	5.2	5.3	5.4

Multi-step method

PTo minimize the underestimation inherent to the "24-hour reminder multi-step method," the interviewer will guide the interview using the multi-step method, which involves applying the interview in 5 steps. These steps are iterative and complement each other to capture as accurately as possible the interviewee's food consumption.

To ensure greater reliability of the data, the "Photographic Atlas of Standardized Foods and Beverages" will be shared with the respondent during the interview. This tool will be used to allow the interviewee to choose the photo that matched the product they consumed in terms of portion size and appearance.

> If the "Photographic Atlas of Standardized Foods and Beverages" does not include a product similar to the one consumed, they will be asked to choose a photo of the one that most closely resembles the product they consumed.

To validate the instrument in Quito, the multi-step method (6) was adapted according the eating habits of the population that is to be interviewed, after a pre-test including 10 people.

Aspects to consider when applying the 5 multi-steps

When applying the 5 steps, the surveyor must keep in mind the following objectives of each step.

STEP 1. Quick list
Objectives:
- List, without interruptions, all foods consumed between the first and last meals on the previous day.

- Record the foods reported by the interviewee. Begin with the following question.

> "Mr. or Ms. We are going to ask you about what you ate yesterday (day of the week). Please, tell me everything you ate and drank since you woke up in the morning until you went to bed at night".

In this step, everything that the participant remembers must be written down in the order they remember it. Many people will remember the foods in chronological order (time of meal), but frequently beverages are recalled out of order or omitted in many cases.

After recording everything the interviewed person reported about eating and drinking, go to step 2.

> The interviewee should feel that they are free to tell at length and without interruption everything they remember regarding what they ate the day prior. If there are no interruptions, the person remembers best.

STEP 2. List of omitted foods
Objective:
- List the type of cooking used on the food.

Go back to the top of the list and retrieve data of the foods frequently forgotten. Ask how the food was prepared —fried, in a soup or packaged, etc.

> "Other than what you already mentioned, did you drink or eat anything else yesterday?"

The following food categories should be mentioned as a guideline: home preparations (minimally processed such as omelets), processed such as canned fruit juice (NOVA group 3, canned products) or ultra-processed (ready-to-eat NOVA group 4).

Table 4. Food category guide

	NOVA			
	Group 1	**Group 2**	**Group 3**	**Group 4**
Other beverages	Home-made fruit juices, natural yogurt, morocho, coladas, milkshakes, oatmeal, tapioca, infusions, rosero, champús, colada morada, coconut water, coffee, chocolate (prepared in water or milk), alcohol-free cocktails. Sodas.			Bottled juices; fruit-flavored beverages; chocolate beverages; tea, canned, bottled or Tetra Pak coffee prepared from powder; any type of flavored yogurt.
Sweets	Sugar, bee honey, panela honey, home chocolate, water-based ice cream, espumilla, creamy ice cream (Salcedo style), paila ice cream, dulce de leche, syrup, sweet guava paste, colaciones, suspiros, aplanchados, nogadas, lollipops, candies, chewing-gum, caramelized toasted corn (caca de perro), garrapiñada (caramelized peanut), among others, prepared at home.		Cookies, snacks, sweets, cereal bars, industrial ice cream, chocolate bars or sweetened breakfast cereal	
Desserts	Pristiños, rice pudding, fruit in syrup, figs with cheese, flan, custard, fritters, cakes, among others.			Jello, frozen or semi-frozen desserts, ready to serve, cookies for baking, Amor, Oreo cookies.
Sauces and dressings		Oil and others, natural dressings.		Packaged dressings, Chinese sauce, soy sauce, vinegar, chili, mustard, mayonnaise, ketchup, tomato paste, stock cubes.
Fried foods	All types of empanadas, bolones, tortillas, patacones, chifles, cassavas, industrialized fried foods (chips, cheetos, doritos, nachos, fried pork skin and similar), emborrajados, muchines, corviche, among others.		If packaged: All types of empanadas, bolones, tortillas, patacones, chifles, cassavas, industrialized fried foods (chips, cheetos, doritos, nachos, fried pork skin and similar), emborrajados, muchines, corviche, among others.	
Street food	Roasted viscera (tripa mishqui), skewers, plantain with cheese, roasted corn.			Fast food (salchipapas, hot dogs, French fries, hamburgers, papipollo, pizza), ham, salami, empanadas, among others.
Home-made traditional snacks	Tamales, humitas, quimbolitos, chigüiles, cassava bread, among others.			
Industrialized traditional snacks				Tamales, humitas, quimbolitos, chigüiles, cassava bread, among others.
Natural fruit	Pear, apple, peach, berries.			
Canned fruit			Peaches, cherries, fruit cocktail.	
Vegetables	Lettuce, tomato, chard, celery.			
Breads and cookies	Non-industrial breads.			Industrial breads.

STEP 3. Time and place of meal
Objective:
- Record the time when the food was served and the place it was eaten.

This step has 2 parts: 3.1 and 3.2.

Go back to the top of the list and determine the time and name of the place where each food or preparation was consumed. In this step, food is given a chronological order based on the time of the meal.

Step 3.1. Start at the beginning of the list. Ask when each food was consumed, using the following codes: 1 before breakfast (bb), 2 breakfast (b), 3 mid-morning (mm), 4 lunch (l), 5 mid-afternoon (ma), 6 dinner (d), 7 after dinner (ad).

Step 3.2. Ask the place where each food was consumed and record the answer: 1 home (1hom), 2 office (2ofc), 3 store (3sto), 4 restaurant (rst), 5 street vendor (Svn), 6 fast-food restaurant (FFR), street food at a local, 7 vehicle.

Beverages and food consumed between meals will possibly be out of order, especially foods forgotten by the respondent. (Step 2). Therefore, go back to the top of the list and ask two key questions: the type and time of the meal.

Begin with the following phrase.

> "Let's order the foods and beverages according to meal times (3.1. I will then ask you the place where you consumed each food or preparation (column 3.2)".

STEP 4. Amount consumed
Objective:
• Record the portion(s) and measurement unit of the product consumed and recorded in the Photographic Atlas of Food and Beverages.

Go back to the top of the list and provide a detailed description of each food or preparation reported and the amount consumed. Each food event and time is reviewed. Ask if foods were consumed at home or elsewhere. At this moment, and not before, amounts and other details are recorded with help from the "Photographic Atlas of Standardized Foods and Beverages".

Step 4.1. Record the unit from the "Photographic Atlas of Standardized Foods and Beverages" reported as consumed.

Step 4.2. Record portions consumed of the food selected from the "Photographic Atlas of Standardized Foods and Beverages".

STEP 5. This step records three types of information
Objective:
• Record if the product packaging reports whether it is light or not, the brand and location according to NOVA classification.

Step 5.1. Go back to the top of the list and obtain information that the respondent can recall. When using the memory aid, there may be valuable information at the place of consumption: vehicle, while shopping, cooking, or cleaning.

Step 5.2. Record whether or not the product is packaged and whether or not it has a record that determines whether or not the product is light.

Step 5.3. Record the brand name of the product. The respondent is asked if he/she knows the brand name of the product.

Step 5.4. At the end of the survey, the surveyor assigns the product the number that corresponds to it according to the NOVA classification: 1, 2, 3, or 4.

Before concluding the interview, a step-by-step review will be done to see if the interviewee remembers anything he/she did not report.

Aspects to consider when applying the "24-hour reminder multi-step method"

Definitions

Portion size: Defined as the amount of food that the respondent reports having consumed, by selecting the photo from the "Photographic Atlas of Standardized Foods and Beverages".

To gather this information, the "Photographic Atlas of Standardized Foods and Beverages" will be consulted. If the Atlas does not include said food, the food code that most closely resembles the food reported by the interviewee will be used as the one consumed, and the code is registered.

Obtaining weights and measures: To properly estimate the amount of food consumed, the "Photographic Atlas of Standardized Foods and Beverages" must be used.

The food weight or volume should be reported following the codes shown in the "Photographic Atlas of Standardized Foods and Beverages", which shows that most foods have 3 or 4 alternatives of portions per food, either in grams or milliliters.

It is essential that the interviewee constantly uses the "Photographic Atlas of Standardized Foods and Beverages". If the Atlas does not include the food with the measurement code, the food that most closely resembles will be chosen for recording. For example, if the Atlas includes the image of 4 portions of a barley soup, but the intention is to record a quinoa soup not included in the Atlas, the measurement of the barley soup will be recorded.

To this end, the respondent must be able to classify foods such as meats, cereals, legumes, vegetables, dairy products, etc.

Method for obtaining the weight or measurement of different foods, ingredients or preparations

To obtain the weight or volume of different foods or preparations, do as follows.

Liquids. The interviewee will be shown the packaging in the Atlas to choose the packaging photo that most closely reflects the volume consumed.

Spreadable fats (butter, margarine, peanut butter, sesame butter, cream cheese). To estimate the amount consumed, the interviewee will be shown the corresponding Atlas page that shows images of spreadables, such as butter, and is asked to describe the amount shown in the image that most closely reflects what they consumed. The reported code is then recorded.

This same procedure may be used for jams, Nutella and other spreadable products.

Breads, donuts, cakes. Ask the interviewee to use the Atlas and select the size that most closely resembles the item consumed. Make sure the interviewee chooses either the minimally processed or the industrialized product.

If necessary, ask one more time to ensure to which NOVA group the reported product belongs.

Fruits. When using the Atlas, ask the interviewee to choose the image of the fruit that most closely resembles in amount or unit consumed.

Vegetables. When using the Atlas, ask the interviewee to choose the image of the vegetable that most closely resembles the amount consumed.

Tubers. When using the Atlas, ask the interviewee to choose the image of the tuber that most closely resembles the amount consumed.

Cheeses. When using the Atlas, ask the interviewee to choose the photo of estimated type and size.

Meats. When using the Atlas, ask the interviewee to choose the image of the meat that best reflects what they consumed. Record if the meat is marinated or not. If marinated meat was consumed, place it in the NOVA group 4.

Ice cream scoop. Estimate size and width of the portion using the Atlas and inquire if the product is industrial or home-made.

Cookies. Ask to select portion size per unit. Ask if the cookies are industrialized or home-made, while using the Atlas.

Snacks. If the snacks are made at home or in small businesses, portion size will be estimated according to the amount consumed and reported by the interviewee. If they are ultra-processed, tag them as such and record the amount consumed.

Grains (beans, lentils, chickpeas, peas). The consumed portion size is estimated using the Atlas. Inquire whether the product was prepared at home, at a home restaurant or at a chain restaurant.

Cereals. Rice or wild rice. The consumed portion size is estimated using the Atlas.

Eggs. The egg size and units consumed are estimated using the Atlas.

Soups. The size and type of soup consumed is estimated based on the Atlas.

Pasta. The consumed portion size or volume is estimated based on the Atlas.

Mixed dishes. Preparations that require several solid ingredients for their preparation, for example: stuffed rice, salads, tuna omelette, among others. To estimate portion size or volume, ask the interviewee to select, from the Atlas, the amount of product consumed.

Sugar. Ask the interviewee to inform the amount of sugar consumed according to the Atlas.

Charcuterie. Ask the interviewee to mention the amount of charcuterie consumed based on the graphs in the Atlas.

Materials and equipment needed for training, fieldwork and data collection

The following files must be installed on the surveyors' computers or tablets:

- "Electronic questionnaire";
- "Photographic Atlas of Standardized Foods and Beverages";
- "Aid sheet";
- "NOVA 27 UPF Categories Tracker";
- "24-hour reminder multi-step method" for Zoom interview.

References

(1)   Freire WB, Belmont Guerrón P, Jiménez E, Román D, Burgos E. Lista de alimentos, preparaciones y bebidas que se consumen en Ecuador según la clasificación NOVA 2017. Bitácora Académica USFQ. 2017; 5: 1-126. Available at: http://bitacora.usfq.edu.ec

(2)   Monteiro CA, Cannon G, Levy RB, Moubarac JC, Louzada MLC, Rauber F, Khandpur N, Cediel G, Neri D, Martinez-Steele E, Baraldi LG, Jaime PC. Ultraprocessed foods: What they are and how to identify them. Public Health Nutrition. 2019; 22(5), 936-941.

(3)   dos Santos Costa C, Rocha de Faria F, Tiemann Gabe K, Fleury Sattamini I, Khandpur N, Marrocos Leite FH, Martínez Steele E, da Costa Louzada ML, Bertazzi Levy R, Monteiro CA. Escore Nova de consumo de alimentos ultraprocessados: descrição e avaliação de desempenho no Brasil. Revista Saude Publica. 2021; 55, 13. Available at: https://doi.org/10.11606/s1518-8787.2021055003588

(4)   Ramírez-Luzuriaga MJ, Silva-Jaramillo KM, Belmont P, Freire WB. Tabla de composición de alimentos para Ecuador: Compilación del equipo técnico de la ENSANUT-ECU 2012. 2014. Quito: Ministerio de Salud Pública del Ecuador.

(5)   Hartung C, Lerer A, Anokwa Y, Tseng C, Brunette W, Borriello G. Open data kit: tools to build information services for developing regions. CTD. 2010 Dec; 13-15. Available at: http://www.nixdell.com/classes/Tech-for-the-underserved/Hartung.pdf

(6)   Lois Steinfeldt L, Anand J, Murayi T. Food reporting patterns in the USDA. Automated multiple-pass method. Procedia Food Sciences. 2013; 2, 145-156.