

Review Article

Implementation of the “General Guidelines for the Sale and Distribution of Food and Beverages Prepared and Processed in the Schools of the National Educational System” in the Iberoamericana - University Campus Mexico City

Pérez-Lizaur AB^{1*}, Moreno-Linda LI¹, and Pardío-López J²

¹Department of Extension Paseo de la Reforma, Universidad Iberoamericana, Mexico

²National Commission on Bioethics (CONBIOÉTICA), Mexico

***Corresponding author**

Pérez Lizaur Ana Bertha, Department of Extension Paseo de la Reforma, Universidad Iberoamericana, Prolong Reforma 880, Lomas de Santa Fe, Contadero, 01219, CDMX, Mexico, Tel: 01-525-5950-4000; Email: anabertha.perez@ibero.mx

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- Iberoamericana- University Campus Mexico City
- Food school environment
- School-based food interventions
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Abstract

Background: The alarming figures of obesity in Mexico suggest actions and strategies that are effective for both the management of the problem and for prevention. One of these actions is the design of collective actions that promote healthy eating environments. Such is the case of the “Mexican General guidelines for the sale and distribution of food and beverages prepared and processed in schools the National Education System 2013-2018” (LG) published in 2014, which seek to regulate the operation of school facilities consumption of all educational levels to facilitate healthy eating patterns.

Objectives: Implementation of the LG in the Iberoamericana- University Campus Mexico City.

Methods: The execution of the LG consisted of 4 stages: 1) Diagnosis, 2) Creation of the Supervisory Committee of Food and Beverage 3) Implementation and 4) Information campaign “More flavor, more health: you decide”.

Results: After de implementation, 60% of the products on sale in the Iberoamericana- University comply with the recommendations issued by the LG.

INTRODUCTION

According to the Mexican Regulation of School Cooperatives published in the Official Gazette of 23 April 1982 [1], still in force, school cooperatives will have an eminent educational purpose for which they must coordinate their activities with the contents, school plans and program’s each branch of education, and thus contribute to the acquisition of integrated knowledge and self-learning process of the learner. This implies that the nature of school cooperatives should be consistent with the curricular content of students to encourage assimilation theory through active learning methods and teaching strategies that are based on lead by example. While these regulations governing the organization and operation of cooperatives schools of basic education, consistent with the academic content task well should be the philosophy of any establishment to be installed on any campus.

The alarming figures of obesity in Mexico [2,3] suggest actions and strategies that are effective for both the management of the problem and for prevention. For several years it is recorded in the scientific literature a huge growth in the volume of generated knowledge for understanding this phenomenon [4-7] and yet, the problem remains growing up [2,3]. The permanent question underlying the generation of this knowledge is why as logical as it is to eat less and move more, idea is so difficult to carry it out?

This epidemiological overview provides a framework in which the transmission of knowledge evidences a complex and requires the use of different perspectives. One of these perspectives is the design of collective actions that promote healthy eating environments. Such is the case of the “Mexican General guidelines for the sale and distribution of food and beverages prepared and processed in schools the National Education System 2013-2018” (LG) published in 2014 [8], which seek to regulate the operation of

school facilities consumption of all educational levels to facilitate healthy eating patterns.

Several publications have documented the body weight gain in college after having completed the first year of the bachelor's degree [9-11]. M. Tseng et al [12] argue that the food environment at universities encourages students to eat more and more due to the presence of three factors: 1) diversity, 2) immediate accessibility and 3) nutritional quality of food. In this regard, it is well known that the greater diversity of foods high in energy density, the greater the consumption [13]. Meanwhile, immediate accessibility offer vending machines processed foods limits the decision of the university to seek a full meal that sate. Add to this the presence of prepared foods high in fat and sugar is added, and which portions contribute to high energy consumption.

In this context, the university is invaluable to study the effect of the food environment in the decision making student [12] space. This is because the university spend four years at least, consuming much of their food on the premises. Thus, educational institutions may well be leaders in building models that encourage the development of skills for the election of more healthy [14,15] food practices.

Universidad Iberoamericana Mexico City Campus (IBERO-CM), in its pedagogical mission to strengthen the teaching of nutriology in students and full-time professors, lecturers, administrative staff and maintenance, and aware of the effect of the environment food on the health of their community, developed an intervention for all drinking establishments that are within the university comply with the LG. The aim of this paper is to describe the food environment of the Ibero-CM and the actions undertaken to plan for and implement the LG.

MATERIAL AND METHODS

The Ibero-CM University is a private institution with about 15,000 people per semester (500 middle school students, 11,500 middle-upper and 3,000 workers) is located in the Lomas de Santa Fe, Mexico; it is an isolated area of the city have little public transportation and because in general the distances traveled to reach it are long, which prevents students go home to eat. While around the university there are several shopping centers with drinking establishments, these are available to high costs and transfer times are also an impediment to reach them. Hence much of the universities are fed into the consumer space offered by the university.

The implementation of the LG was held during the months of August and September 2014; at that time the Ibero-CM had 11 vendors who offered their service in a total of 66 drinking establishments distributed by type of consumption: 2 cafeterias, 4 spaces fast food, 2 stores, 2 dining menu cyclic and food vending machines 56.

The execution of the LG consisted of 4 stages: 1) Diagnosis, 2) Creation of the Supervisory Committee of Food and Beverage 3) Implementation and 4) Information campaign "More flavor, more health: you decide".

Diagnosis

In order to describe the food environment and identify the

necessary actions to enforce LG, the 66 drinking establishments in order to assess visited: a) dishes and drinks are available a la carte, b) Saucers cycle "menus healthy" available on the university and staff canteens, c) processed and packaged available in vending machines 56 Products. To the above it was necessary that suppliers delivered in the span of a month, standardized recipes and nutritional content of dishes cycle "healthy menu" and packaged products and beverages (nutritional labels).

Evaluation of a la carte: To evaluate a la carte, and determine whether they met the LG, they were taken into account the recommendations of energy and macronutrients issued by LG, which indicate that the requirement of daily energy for students of middle and higher level is 2,312 kcal, distributed according to time consumption: 578 kcal breakfast (549-607 kcal); snack 347 kcal (330-364 kcal) and food 694 kcal (659- 729 kcal); the rest of the energy will be distributed in a more snack and dinner. The sate software program that allows the evaluation of the nutritional content based on data Equivalent Mexican Food System, which reported the nutritional composition in 100 grams of food was used for the analysis of the dishes. Thus was defined as a pattern of average consumption per student, selecting a dish and a drink of the letter, which should contribute 80% and 20% respectively of the total energy supply of the recommendations made by the LG, as time consuming. Hence for the case of a dish meal should provide about 550 kcal, while a drink 140 kcal, whereas the total energy consumption in food is 694 kcal. Moreover, based on the criteria of a balanced diet, it was determined that fats should make up 30% of total energy value set for each consumption time. With the values relating to nutrient content of foods, the percentage of adequacy was calculated considering the recommendations of nutrients from LG, according to the formula% adequacy = (contribution calculated for a given nutrient / recommendation consumption for that nutrient) *100. So it was felt that a dish did not meet the LG when its adequacy percentage was greater than 110%.

Assessment of dishes cycle "healthy menu" available in the dining halls and staff: For evaluation of the "healthy" menus cyclical provisions considered in LG, which indicate that a healthy menu is one that is varied, balanced and comprehensive and provides between 550 kcal and 690 kcal. For these purposes the percentage of suitability for menu was also calculated.

Processed and packaged available in 56 food vending machines products: In the case of processed foods available in vending machines 56, the evaluation was carried out by what is reported in the nutritional labels of packaged products.

To perform the evaluation, the products are divided according to categories issued by LG at:

- Drinks for high, medium and higher
- Milk
- Yogurt and dairy processed foods
- Drinkable Yogurt and fermented dairy foods
- Fruit juices, vegetable juices and nectars
- Liquid foods soy
- Snacks

- h. Cookies, pastries, candies and desserts
- i. Oilseeds and dried legumes
- j. Cheeses to snack.

According to the food category, the nutritional criteria evaluated were:

- α. Energy per serving
- β. Serving size
- χ. Sodium
- δ. Use of non-caloric sweeteners.
- ε. Added Sugars
- φ. Content of caffeine or taurine
- γ. Total Fat
- η. Saturated fat
- ι. Trans fatty acids
- φ. Proteins

Creation and work of the Supervisory Committee

In compliance with the issued by LG, the Supervisory Committee food and beverage was created with 15 members belonging to different disciplines and fields of action of the Ibero-CM, including university, in charge of the drinking establishments and professionals from different areas (professors from the Departments of Health, Engineering, Chemical Sciences and Hospitality; active members of the Alumni Association, Administrative staff of the Human Resources areas and the Direction of Operations and Services, Representatives of the Food and Beverages establishments). The establishment of this multidisciplinary team allowed developing comprehensive proposals related to the various edges on food consumption. The Committee was responsible for: a) evaluate the results of the diagnosis stage, b) Based on the diagnosis and population characteristics, identify the recommendations of the LG viable to apply for both dishes and menus, and for processed products and packaged. The Committee met for 4 months every two weeks. The main findings were:

1. 60% of products from vending machines, convenience stores and concepts on demand (fast food), must comply with the guidelines. This was decided based on the percentage of the population of the Ibero-CM under age 22; 55% of the population is 22 years or less.

2. The nutrients that will be evaluated in processed foods are:

- Serving size
- Energy
- Grease
- Saturated fat
- Sugar
- Sodium

3. Where processed products comply with the contribution

of saturated fat and sugar emitted by LG fat, may be sold in cafeterias and vending machines.

4. All drinks in cafeterias should be prepared with low-fat milk. This decision was possible to take it because a supplier was that the products are not altered or taste or presentation, using skim milk instead of whole milk.

5. All cafeterias must have the option of decaffeinated coffee.

6. The cafes will offer two sizes (small and large) for dishes like fried fries.

7. The cafes will offer chilaquiles baked and fried

8. Concepts letter must standardize the amount of cream (1 tablespoon) and cheese in their stews. The cream should always be low in fat; if diners ask for more, you may be given.

9. Vending machines remain the same location within the University. With respect to the proportion of products offered, 60% must comply with the LG and the arrangement of the products should give preference to comply with the LG.

10. As vending machines for dishes a la carte service (fast food) also found that 60% must comply with the LG.

11. The beverage offer services a la carte, vending machine and self-service shops, must comply with the following distribution:

- 40% plain water
- 20% calorie-free drinks
- 40% other drinks.

12. It is proposed to change the name of "Healthy Menu" to "healthy Recommendation of the day"

13. It was determined that the information campaign be coordinated by the Department of Health of the Ibero-CM. The focus of the campaign should be:

- Quality, not kilocalories.
- Formative research to explore the interests of the population and the communication channels is proposed.

Implementation

Based on the diagnosis and recommendations issued by the Supervisory Committee a report which was presented to each supplier was generated; this report included recommendations issued for each vendor and each product. Thus, the purpose of which met the LG dishes, were suggested changes in the ingredients (eg, cream cheese: original recipe .028 kg; modified recipe .005 kg). Also included recommendations as:

- I. Indicate the amount of oil to be used in each recipe.
- II. Train staff to use measuring spoons for oil and cream.
- III. Continuously supervise the process of preparation of all dishes.

Iç. Check standardized recipes and modify the weight of the following ingredients: double cream cheese, bacon, parmesan cheese, salad dressings, gouda cheese, chicken breast and rice, cream double cheese.

5. Adjust the serving size or weight of the ingredients to meet the energy intake suggested by LG: 550 kcal per 192 kcal dishes and total fat.

In the case of the concept “recommendation healthy day” as issued suggestions:

- Check standardized recipes, modify the methods of preparation (prefer baking, roasting, steam) and substitute ingredients in recipes to reduce the energy input. Avoid using fried, breaded or breaded.
- Train staff in the use of instruments to measure the volume of cream and oil used in food preparation; this strategy will meet the requirements of total fat in the dishes.

Finally, in the case of processed and packaged products (convenience stores and vending machines), we worked directly with suppliers who were asked to withdraw products which do not meet the LG; They were asked to include new products that met the LG (eg, brownies [90 kcal]; crunchy bar [87 kcal]; fig bar [94 kcal]; chewy quaker [98 kcal], etc.), which were retested. In this way it was possible that all providers should offer a range of products in which 60% met the LG.

Information Campaign “More flavor, more health; it’s up to you”

According to the data in order to sensitize those responsible for consumer establishments on the importance of implementing the LG and the university community informed choices about food consumption, the Committee proposed to design an information campaign. Hence, the Department of Health conducted during the month of November 2014 four focus to explore the willingness of the community to make changes in eating patterns, define concepts, messages and channels of communication groups the campaign as well as the name and logo of the campaign. Focus groups were held in the House of Gesell’s Department of Psychology and were shaped by different members of the community (high school students at Ibero, college students, teachers, members of administrative staff, cleaning staff). Topics for discussion were developed by experts in the design and development of focus groups (Table 1). The coordination group was in charge of an expert Nutritionist in the development of focus groups. The participants’ informed consent was obtained.

RESULTS

Diagnosis

Table (2) describes the food environment of the Ibero-CM, according to local consumption. Each space offers a wide variety of food, drinks, dishes and menus. The greatest diversity is observed in cafeterias with cyclical menus “healthy recommendation with” 8 weeks formed by (watery soup, dried soup, main dish, side dish or salad and dessert) menu which gives a total of 240 different dishes, followed by food vending machines with 188 and cafeteria food concepts with 165 different foods. The lower diversity is seen in fast food places with 50 different foods.

As for foods that do not meet the LG (Table 3) of all food sold ($n = 1550$) in the 66 drinking establishments, 41% ($n = 642$) did not meet any of the nutritional criteria of LG, with emphasis on

the cafeteria in the library with 77% of the food did not meet LG, followed by the cafeteria of organic products (71%) and one of the areas of food (70%). Establishments that most met the LG were the cafes offering menus cyclical “healthy recommendation of the day” in which more than 70% of the dishes served with LG.

Work of the Supervisory Committee and Implementation

Table (4) shows the actions proposed by the Committee to enforce the LG. Generally focus on promoting the use of low energy ingredients (eg, use of skimmed milk in drinks), reduce portion sizes of food preparations frying and encourage the use of cooking techniques that decrease the energy density of preparations such as steam, baked and cooked. These actions not only seek compliance with the LG innovate but also low-fat preparations, as in the case of chilaquiles baked (in which case the traditional recipe uses frying). It was also requested decrease the portion of the extra ingredients of the dishes, such as cheese and cream that were low in fat.

In addition to this, the Committee agreed that all establishments 60% of the products on sale must comply with the recommendations issued by the LG. Thus significantly improving the food environment observed in the diagnosis, where more than 50% of the products of each establishment, did not meet the LG. The Committee also generated changes in the type of beverages available in vending machines, so that the total beverage, 20% shall be without calories, 40% other beverages and the remaining 40% water.

As for the spaces that offer cycle menus or a la carte, in addition to the above changes, the cafes were asked to include daily in the letter food “healthy recommendation of the day” menu, the nutritional contribution meets the characteristics of a saucer balanced. Meanwhile, suppliers of processed products must label all foods. Finally, managers of establishments must inform the Directorate of Operations and Services on any new product added to the sale, to ensure compliance with the LG.

To achieve this, dialogue with those responsible for consumer establishments to make their knowledge agreements Committee was encouraged. In addition, the Department of Health experts trained people directly involved in the preparation and sale of food for compliance with the agreement. In case it is not possible to modify the product, it requested that it be replaced by some other yes comply with the agreements. One month term was set to make the changes. After this period took place the stage of monitoring, which consisted of four unscheduled visits to systematically perform the following activities: a) oversee preparation of the dishes; for it samples of all foods and dishes were taken, the ingredients are weighed and with this information the nutritional contribution, b) was calculated on photographic records of the dishes before and after modifying recipes and c) tasting dishes.

Information campaign “More flavor, more health: you decide”

The above actions were reinforced by the information campaign “More flavors healthier: you decide”. Based on the results of focus groups (Table 5) was possible to study the

Table 1: Discussion Topics at Focus Groups.

Topic	Content
Healthy eating	- Defining a healthy diet (healthy and fresh foods, frequency of consumption and portion sizes) - Barriers to healthy eating (cost, time for consumption, availability, appearance, taste, beliefs, motivations and knowledge) - Disposition to modify the Food and Beverage establishments to enhance a healthy diet (Opinion about the LG, identification of the viable changes, knowledge about the changes to be done) - Serving sizes - Opinion about nutritional labels and icons to identify healthy foods (Does knowing the energetic input of the menus influence in better food choices?) - Who motivates healthy eating habits? - Necessary abilities to have a healthier diet - Identifying campaigns that enhanced changes in conduct and attitudes.
Communication in Health	Identifying means of communication for the campaign

Table 2: Food Context at IBERO-CM¹, according to the type of establishment.

Food and Beverage Establishment (n=66)	Availability of different food, meals and beverages. N	Description
Cafeterias (n=6)		- Menu with 11 different types of food (Antojitos, Chinese, Salads, Sandwiches, etc.) - Diner for students and employees with cycle menu. - Hot and cold beverages; processed meals and packaged food. - FALTA - Hot and cold beverages; processed meals and packaged food; snacks and sodas.
- Concept food - Cycle Menu - At the Library - Organic products - At the Gym	165 240 60 149 57	
Convenience Store (n=2)		- Processed food and sodas - Processed food and sodas
- Store 1 - Store 2	135 130	
Fast Food Court (n=2)		- Menu with varied options (Antojitos, sushi, sandwiches, tacos, etc.) - Menu offering processed and packaged meals.
- Court 1 - Court 2	50 51	
Vending machines (n=56)	188	Processed and packaged foods and beverages. (Snacks, cookies, sodas)
Total	1550	

¹IBERO-CM. Ibero-American University, Mexico City.

Table 3: Foods, meals and beverages that do not meet the ¹LG nutritional criteria, according to the type of establishment.

Food and Beverage Establishment (n=66)	Availability of different food, meals and beverages. N	Foods not meeting the LG nutrimental criteria N (%)
Cafeterias (n=6)		
- Concept food - Cycle Menu - At the Library - Organic products - At the Gym	165 240 60 149 57	43 (26) 69 (25) 75 (27) 46 (77) 106 (71) 36 (63)
Convenience Store (n=2)		
- Store 1 - Store 2	135 130	63 (47) 57 (42)
Fast Food Court (n=2)		
- Court 1 - Court 2	50 51	19 (37) 35 (70)
Vending machines (n=56)	188	93 (49)
Total	1550	642 (41)

¹LG.Lineamientos Generales para el expendio y distribución de alimentos y bebidas preparados y procesados en las escuelas del Sistema Educativo Nacional.

(LG. General Guidelines for the expenditure and distribution of foods and beverages prepared and processed in Schools of the National Education System)

Table 4: Proposed Actions by the Food and Beverage Surveillance Committee to meet the LG¹.

Variables	Actions
Beverage preparation	• Use skimmed milk • For every caffeine containing drink, the same option must exist without caffeine.
Beverage distribution	Every establishment must offer the following: • 40% plain water • 20% non-caloric drinks • 40% other beverages
Serving sizes	• Reduce the size of the portion for fried foods (e.g. chilaquiles) • Offer two sizes for fried foods (e.g. French fries): small and big.
Cooking techniques	• Diminish the use of oil and fat • For fried foods, offer the baked version as well (e.g. Fried chilaquiles and Baked chilaquiles) • Avoid battering, breading and frying.
Extra Ingredients	• Use low fat sour cream and reduce its serving size. • Reduce cheese portion sizes.
Proportion of foods that must achieve the LG	• 60% of the total processed foods that are being offered at the establishments, including vending machines, must meet the total lipid and sugar recommendations of the LG. • 60% of the total meals that are being prepared at the establishments, must meet the energetic input recommended by the LG: 550 kcal and 690 kcal for breakfast and lunch meals, respectively.
Menu "Healthy choice of the day"	It will be available at every cafeteria and must have the following nutritional value: • 690 kcal per serving • Protein 10%-15% of the total Energy input • Lipids 25%-30% of the total Energy input • Carbohydrates 55%-60% of the total Energy input • It must meet a balanced diet criterion and be served with plain water or fresh fruit flavored water without added sugar. To achieve the above, all cafeterias will receive feedback from the Direction of Operations and Services and the Department of Health at the IBERO University.
New food choices	• For new foods, meals and beverages, prepared or processed, the establishment must inform the Direction of Operations and Services for them to be reviewed and make sure they meet the LG criteria.
Nutrition Facts Labels	• Every processed products, including packaged meals (e.g. sandwiches, paninis) must present a Nutrition Facts Label.

¹LG.Lineamientos Generales para el expendio y distribución de alimentos y bebidas preparados y procesados en las escuelas del Sistema Educativo Nacional.
(LG. General Guidelines for the expenditure and distribution of foods and beverages prepared and processed in Schools of the National Education System).

Table 5: Focus Groups Results.

Topics	Results
Defining a healthy diet	⇒ Concepts that define a healthy diet: balanced;adequateportion sizes; little to no additives; combine all food groups; eat 5 meals per day; eat every type of food without overeating; availability and accessibility; healthy eating depends on each person's metabolism.
Barriers to healthy eating	⇒ Lack of personal motivation for healthy eating is considered to taste bad or have no taste at all and to be boring. ⇒ Lack of time and knowledge, cost (it is more expensive to eat healthy) ⇒ Accessibility and availability ⇒ Social pressure, for it is common to feel forced to eat unhealthy food. ⇒ Food appearance, because generally high density foods are considered to be more appealing. ⇒ People rather have meals that give a sense of fullness. ⇒ The idea that fruits and vegetables are better washed and disinfected.
Disposition to modify the Food and Beverage establishments to enhance a healthy diet	⇒ Changes are approved in general ⇒ The idea of having more variety of healthy foods is well received, however taste and presentation must be considered.
Serving sizes	⇒ Students agree on having small serving sizes if they are proportional to the cost. (less product, lower price) ⇒ Employees do not agree because they feel they will stay hungry, plus the quantity depends on the person. (nutritional requirements, metabolism, type of job, schedule, etc.)
Nutrition Labeling	⇒ It would not be useful ⇒ This type of information is not enough ⇒ References according to age, sex, etc. would be needed. ⇒ It would be more useful to know the contents of sugar, salt and fat. ⇒ The content of calories is irrelevant if one does not understand how they affect, meaning everyone needs to know how many calories are needed per day, the reference is needed. ⇒ A campaign is needed to teach how to eat,they would like to receive education.

Ideas to consider for the design of messages and the identification of the means of communication for the campaign.	⇒ Campaigns should be visual, interactive, use the humor and generate expectations, change continually but be permanent, they should be present throughout the campus. ⇒ It should include physical elements, be visual ⇒ Offer experiences (show physically the content of sugar, salt or fat in different foods) ⇒ Make challenges (changes in anthropometric measurements at multiple time-points) ⇒ Make use of the main screen at the University and social networks (especially Instagram because it is more visual and does not involve long texts) ⇒ Send emails on behalf of the coordinators or the Alumni Association. ⇒ Place posters at strategic spots like cafeteria tables or restroom mirrors.
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knowledge of the community on food and health, leading to consume healthier foods barriers, attitudes on changes in the dishes and portions, as well as possible usefulness of nutritional labeling. Thus it was possible to define the campaign would focus its messages on the amount of food and the taste of the dishes, rather than the energy content thereof. Hence the Department of Communication at the Ibero-CM proposed the name “More taste better health: you decide” and designed the logo (Figure 1).

For the development of the campaign stickers and posters were printed, which they were placed on one side of the menus or dishes that met the LG. This allowed the consumer could identify healthy dishes and make an informed choice.



DISCUSSION

It is well known that students spend more time in educational spaces at home. His stay in them is aimed at learning knowledge, identifying intellectual and emotional skills as well as capacity building for decision-making and self-care; in the latter

consuming a healthy diet and exercise habit is included.

Several research documents that the school environment influences decisions students' consumption [14]. According to the Institutes of Medicine of the National Academy (IOM, for its acronym in English) traditional American coffee only offered subsidized meals; and in 1995 they involved 28 million school children in the “Program National School Lunch” and 8 million in “School Breakfast Program” [16]. Food of both programs met the nutritional recommendations issued by the American Dietary Guidelines. However, for several years there has been a disproportionate increase in the sale of food and products out of national programs, which do not meet the American Dietary Guidelines and which have been called as “competitive foods” [17]. Inclusion in school sites has led to the increased availability and diversity of foods high in energy density and sugary drinks; both risk factors for the obesity [18].

According to the IOM, although 21 US states have policies that restrict the sale of competitive a food, regulating the nutritional content of these products has been inefficient. Based on the above, in 2004 the Center for Prevention and Disease Control (CDC, for its acronym in English), the American Academy of Pediatrics (AAP, by its acronym in English) and the IOM, implemented in all schools basic education the “Wellness Policy”, which is to regulate the nutritional content of competitive foods and enrich the curriculum content materials and related activities with healthy diet program [16].

This effort was accomplished that much of the United develop guidelines to regulate the sale and preparation of food; many of them focused on the preparation of dishes with less energy content and the sale of smaller portions, some other developed nutrition education programs to increase knowledge about eating a healthy diet. As for drinks, most schools decreased their sugar content and banned the sale of soft drinks. In this regard, California, Hawaii and Texas are the states that show better regulation in the preparation and sale of food. In this program four constraints are highlighted: 1) failed to regulate all competitive foods, 2) only 32% of total US primary schools monitor adherence to the program, 3) only 10% of schools punishes failure of the program and 4) meeting the nutritional criteria is not mandatory for middle schools and higher education.

The alarming figures of obesity in Mexico [2,3] suggest the urgency of action to abate this epidemiological picture. The link between school cooperatives and academic content is one of these actions. The fact that content on healthy eating habits are taught and parallel consumer spaces offer foods high in energy density, not only denotes conceptual incongruity by schools, but also involves miss the opportunity to practice teaching through imitation.

In this regard, the social cognitive theory of Bandura out as one of the basic assumptions of the learning process, the imitation and modeling [19-22]. According to this author good part of human learning is encouraged in the social environment. Watching the other, people acquire knowledge, rules, skills, strategies, beliefs and attitudes. Thus, theories like Bandura Rotter [19] and posit that from the point of view of social cognition, modeling processes play a prominent role in learning. And they argue that throughout history, has been regarded imitation as an important means of transmission of behaviors.

Aware of the educational incongruity showing current local school consumption with school contents, the Ministry of Health and the Ministry of Education under the National Agreement for Health Food proposed in 2010 the "General guidelines to regulate the sale or distribution of food and beverage establishments school campuses consumption of basic education" [23], whose main objective was to promote the sale of foods low in energy density and promote the consumption of drinking plain water in schools. Whereas this educational incongruity was not exclusive to basic education [17], May 2014 under the National Development Plan 2013-2018, is published a second version of the guidelines but this time its mandatory extends to the middle and secondary education, now with the name "general guidelines for the sale and distribution of food and beverages prepared and processed in the schools of the national education system [8]".

In line with this measure, the Ibero-CM University undertakes the task of implementing nutritional recommendations issued by LG. To our knowledge we have not identified other publications in Mexico documenting the food environment and the implementation of LG on college campuses. The description of the food environment of the Ibero-CM University described in this document helped increase knowledge about the quality of food available in the different areas of Consumption College. In this environment it highlights the great diversity of food, dishes, menus and drinks; this diversity not only be seen in the number of different products sold ($n = 788$), but in the 66 drinking establishments with which account IBERO-CM.

In this regard, Mc Crory et al., have reported that power consumption is directly proportional to the diversity of diet per se [24]; that the greater the diversity, there is greater consumption, and that this phenomenon is accentuated when diversity is due to the consumption of foods high in energy density. According to these authors, a possible explanation of this phenomenon may be related to sensory-specific satiety [25], which is that to the extent that the flavors are similar to each other, the taste continues consuming decreases. In contrast, when the next option is a food with different flavor, taste is not affected by consuming and, conversely, increases.

The effort made by the Supervisory Committee of food and drinks IBERO-CM University for 60% of total food available at each facility meets the LG, is aimed precisely that diversity is due to the presence of healthier foods. The main point to be emphasized in this paper refers to the message that students receive consumer spaces, eg, the presence of an abundant diet rather than a more frugal. The implementation of LG by the Ibero-CM University seeks consistency of the food environment with its educational work. For its part, the provision that showed managers of



establishments to work with health experts allowed to document the feasibility of generating agreements between academic and suppliers. In addition to this, the campaign "More flavor, more health, you decide" in the community sought to develop critical attitudes to practices that facilitate the consumption of healthier diets; pointing healthy with the campaign logo dishes realizes this.

The obesity epidemic facing the world necessarily requires more radical policies. As an analogy, it is noteworthy that have been taken on smoking; currently there are universities 100% smoke-free snuff, which although they are extreme measures allow the transit institution under a scheme of academic consistency. The body weight gain after having completed the first year of degree is well documented. This scenario allows questioning the appropriateness of equal smoking policy towards 100% free space high energy dense foods and sugary drinks. To the extent that obesity continues to grow, suggests the need for extreme measures, whose application it may be argued under the provisions issued in Regulation School Cooperatives 19821, still in force [26,27].

The implementation of LG in the food environment IBERO-CM University represents a step forward. On the understanding that the next step is to develop an evaluation to document the results of the implementation of LG.

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