

PEDIATRIC THEME

General guidelines established for the sale or distribution of food and beverages consumed in basic education establishments: critical analysis of the AGREEMENT

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ABSTRACT

This paper offers a critical analysis of the AGREEMENT under which the general guidelines to sell or distribute foods and beverages in elementary school cafeterias have been established. This is a legal instrument established by the Ministries of Public Education and Health to regulate that foods and beverages sold and consumed in school cafeterias will be healthful, in order to reduce the high rates of overweight and obesity in school-aged children. All of the chapters in the AGREEMENT have been analyzed to determine their pertinence to overcome the problem of overweight and obesity: legal aspects, physical characteristics of the cafeteria, and the committees to determine the functions of the cafeteria. Furthermore, analyses have been made of the scientific terms where the nutritional composition of the healthy products is defined. It is expected that foods and beverages sold in school cafeterias will be changed to healthful items over the next 3 years. A list of statements considered as strengths or weaknesses is presented as well as a table that includes several actions that could be undertaken by teachers, parents, students and school authorities within the school and the surroundings to reduce the problem of overweight and obesity in children.

Key words: guidelines, overweight, obesity.

INTRODUCTION

Overweight and obesity (OAO) represent a serious public health problem in Mexico because they affect children, adolescents and adults from all socioeconomic statuses. They are among the highest prevalence worldwide for different age groups. In 1999, combined OAO prevalence for children was 18.6%,¹ which increased at an average of 1.1% annually to reach 26% in 2006.² OAO prevalence in adults >20 years of age was 66.7% for males and 71.9% for females in 2006.² If factors that determine this problem are not assessed, it will continue to grow at the same rates.

Nowadays we know that the excessive fat tissue that characterizes obesity is not harmless. It becomes an endocrine gland that continuously produces substances inducing a chronic inflammatory condition that deteriorates health.³ Even at an early age, >50% of obese children present insulin resistance and, of these children, 20% develop metabolic syndrome.⁴ OAO persistence has been associated with nontransmittable diseases such as type 2 diabetes mellitus, arterial hypertension and certain types of cancer, representing a serious health problem worldwide.^{5,6} On the other hand, obese children have up to 70% probability of being obese adults and can develop more serious obesity onsets than those who developed the condition as adults.^{7,8} Also, obese persons have a higher risk for suffering social and psychological problems such as discrimination and low self-esteem.⁹

The large number of adults with OAO, their comorbidities and the high costs involved with their care are deteriorating the budget of healthcare institutions without being able to restore health for these patients. These conditions have been considered the leading causes of death in the adult Mexican population.¹⁰

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Because of failed OAO therapies at medical centers, prevention has been regarded as the best strategy for their containment, promoting that children acquire healthy lifestyles including food and physical activity, which are central to this problem. Nowadays, processed foods are more readily available than natural foods, and a number of sugar-containing beverages are taking preference over drinking water. Energy used for commuting, working and leisure-time activities has decreased considerably and life has become sedentary. As a result of ingesting more energy than we expend, our energy balance has become chronically positive. Additionally, there is higher food availability, more sedentary activities and the approval of people who are comfortable with this lifestyle, which is perceived as well-being.

In this scenario, elementary schools affiliated with the National Education System (with >95% of the student population) represent a platform that may contribute to revert the severe OAO syndrome if we acknowledge that schools nowadays are an obesogenic rather than a healthy environment.^{11,12} Part of their mission should be to promote the development of healthy nutrition and physically active lifestyles through different activities. Although encouragement for a healthier lifestyle should be aimed chiefly at children, it should include all participants influencing changes such as parents, family, educational institutions, community authorities and, especially, the processed food and beverage industry as well as marketing media. Among the organizations and countries that have become leaders promoting OAO reduction, we should highlight the following: World Health Organization,⁶ the Institute of Medicine (U.S.),¹³ the European Union,¹⁴ and several countries including Mexico.^{15,16} In order to fight this problem, these organizations and countries have published guidelines, chiefly for elementary schools, that promote the development of healthy lifestyles (both food intake and physical activity), which are closely associated with obesity.

In Mexico, the *National Agreement for Food Health, A Strategy against Overweight and Obesity* (First AGREEMENT) was published on January 25, 2010¹⁶ having the goal to revert OAO epidemics in the Mexican population at all ages. As part of the above, a Second AGREEMENT that establishes general guidelines for sale and distribution of foods and beverages at cafeterias in elementary schools was published.¹⁵

Given the importance, this Second AGREEMENT has as a public policy for OAO containment in Mexico (particularly aimed at school-aged children). Here we present a critical analysis of its relevance and limits. Later we present some elements that should be considered to encourage healthy food and physical activity habits in children who attend schools affiliated with the National Education System.

Critical Analysis of the AGREEMENT

The AGREEMENT was signed on August 23, 2010 by the Secretaries of Education and Health, having as reference the First AGREEMENT and the specific *Actions Program for Schools and Health 2007-2012*.¹⁷ It is basically an understanding that establishes general guidelines for sale and distribution of foods and beverages in elementary school cafeterias and also establishes bases to promote a healthy lifestyle. The main subject is regulation of foods and beverages at schools, but it does not address the home-school-home cycle that all children experience daily, whether all the different times when they consume food or themes regarding physical activity.

Considerations

There are 29 considerations that analyze legal and technical bases that the Mexican government has on health care and disease prevention. The OAO problem is approached using different considerations (although their reading order could be improved), acknowledging that nutrition and physical activity patterns are closely associated with OAO. They are also regarded as modifiable and socially learned and highlight the importance of education as a tool to shift these processes so that children understand that eating and exercise habits are strongly associated with nutrition, health and learning. Even though the AGREEMENT is signed by Secretaries of Health and Education, the problem surpasses these environments and requires integral actions as indicated by the First AGREEMENT. All in all, the First AGREEMENT is a mandatory regulation for public elementary schools in Mexico.

Title I. General dispositions

There are four dispositions: The first disposition describes the goals of the AGREEMENT and adds a third teaching goal about the need to promote a healthy nutri-

tion culture and a fourth goal on the importance of making the teaching community aware that health is a basic element of well-being for children and adolescents. The second disposition confirms the application environment, which includes all public and private elementary schools affiliated with the National Education System. The third disposition indicates the use of an annex for an effective nutritional guideline; however, no instrument has been published on this matter such as a technical tool that can be used for teaching. The fourth disposition contains a number of definitions used in the AGREEMENT. We think that some definitions require more precision or even determine whether they should be included in this section. For instance, when defining physical activity as one of the elements, the wording is convoluted and because it is not an essential part of the AGREEMENT, its application is not mandatory. The definition of nutrition, in addition to being complex, is out of context. The activities referred by the AGREEMENT will not promote the maximum “satisfaction of intellectual, emotional, aesthetic and sociocultural needs.” The definition for “correct nutrition” says that “in adults, it will allow maintaining or achieving the expected weight for size.” This concept, which is essentially homeorhesis, does not necessarily involve childhood health. As for “overweight and obesity” definitions, these are clear for the adult population but imprecise for students and, finally, it is interesting that the term “healthy nutrition” has not been defined, which is the current term used worldwide.

Title II. Appropriate Student Nutrition

This title has two chapters. The first chapter involves principles for correct nutrition and the second chapter focuses on the promotion of a culture of correct nutrition in the teaching community. However, both chapters emphasize compliance of these forms of nutrition according to what is offered and consumed in the school cafeteria. Personnel working in the cafeteria will be responsible for providing students with information on nutritional values of foods. In addition, there are other valid asseverations without instruments for their implementation. Here we have some observations: will actions from surveillance committees be enough to reach the third goal? Should the committee include cafeteria employees and products thereof offered to create healthy nutrition habits, especially when cafeterias are in remote or socially excluded schools?

Title III. On the Committee Establishment and Its Considerations

This title has two chapters. The first chapter is in regard to characteristics of committees responsible for surveillance of the school cafeteria. It defines personnel, timing and hierarchies. The second chapter is in regard to what should be considered by the committee so that the school cafeteria works appropriately.

It is a good idea that committee members belong to the teaching environment, especially teachers and parents; however, there seem to be insufficient employees of the agency referred to as DIF (Development of the Integral Family) for the current schools available and this would assume that DIF workers could not be an integral part of such committees. It is taken for granted that the committee should receive training to comply with its functions. This calls for a standardized training program as well as teachers who will work every year because the committee will be renewed yearly. Probably the most practical and effective tools are checklists for each process that include supplier compliance, hygienic food preparation practices, type of products offered, and type of beverages offered as well as the accuracy and relevance of product labels. However, it seems that the committee will not be responsible for encouraging families to acquire healthy lifestyles. Promotion of the above seems to be part of the school’s mission and, therefore, responsibility is shared among teachers, the institution and the school community; hence, a cafeteria offering healthy products is simply congruent with these principles. There is no information about the number of public or private schools that have a specific area for the cafeteria. Nor does it mention who will manage the cafeteria. When there is a cooperative system, will that still be run by children? If not, how will concessions be regulated? If there is a cooperative system or there is not, it is unclear who will select suppliers, products, perform cleaning, promote healthy nutrition, etc. The committee will be responsible for its compliance, but not for its execution.

Title IV. Hygienic Conditions

This title has only one chapter that deals with hygiene and indirectly describes the cafeteria characteristics. The chapter mentions that there should be areas to sell food, to prepare food, to store personal belongings, to store cleansing products and to temporarily store garbage before

discarding it. These characteristics are similar to those available in developed countries where school cafeterias are self-service restaurants where ready-to-eat processed foods are offered as well as freshly prepared foods and they do have appropriate facilities to comply with this purpose.¹⁷ Mexico has a large variety of schools. There are public and private institutions that can resemble such characteristics; however, there are public and private schools that do not identify a specific area for this purpose. Any aisle or the areas under the stairways are used to sell products contained in cardboard boxes while hot food is prepared in a portable stove. Indeed, it lacks a section that defines the type of facility, having urban schools to comply with Title IV, whereas suburban and rural schools will have a much more modest facility. There is no mention of teaching children the principles of garbage classification such as recyclable and non-recyclable items. At the same time, students should be able to learn that some natural products can become organic fertilizers. It is necessary to promote the idea that schools must have containers that clearly specify the type of garbage to be received.

Title V. Requirements for Personnel Who Prepare and Sell Food

This title has two chapters. The first chapter provides guidelines on hygiene of personnel responsible for food and beverage preparation prior to their sale. There are 12 clear rules; however, we could add one rule that would require that hair and mouth are covered while food is being prepared. The second chapter refers to requisites for suppliers and/or food and beverage vendors. Requisites for suppliers are very clearly outlined in the annex. Requirements may not be difficult to meet for processed foods if the change is done gradually, even in remote and small schools; however, freshly prepared food will be cooked according to each region's cultural preferences. The committee will promote the offering of healthy products.

However, the second part of the second chapter on food and beverage vendors states that they should receive guidelines and training on how to offer food and beverages as well as hygienic measures to be observed during their preparation and distribution. This can be interpreted as vendors who comply with guidelines and training requirements would, in fact, operate the school cafeterias. If this is the case, when vendors are not related to the school, the following questions arise: Who will

authorize their presence at school facilities? What would be the amount paid by the vendor to the school and how will it be determined? The chapter states that training for vendors can be supported by local healthcare services. In our opinion, training of such personnel in remote communities should remain open to be resolved according to the circumstances of each community because personnel may change regularly. Again, execution of this chapter assumes readiness of an appropriate area, drinking water, electricity, drainage, refrigeration equipment and other facilities and absolute minimal specifications should be determined because it is unlikely that all establishments have all facilities and necessary equipment. Will there be a manual on food preparation procedures? Will such manual be located in a visible and easy to access location? Who will be responsible for its contents and updates?

Title VI. Rights and Obligations

This title has four chapters. The first chapter deals with the rights and obligations of the teaching authorities. The second chapter is associated with the teaching community. The third chapter is in regard to health authorities and the fourth chapter focuses on planning, evaluation and follow-up. The first chapter describes management activities that should be carried out so that products (foods and beverages sold at cafeterias) agree with indications for a healthy diet. There are several teaching points involving the teaching community and having exercise promotion as an added activity. A teaching component described here is having breakfast at home and to encourage children to eat meals containing appropriate nutritional values; therefore, involving their parents in the process. The next chapter recommends to not give money to children and to supply them with a snack appropriate for their age. This would be more appropriate as part of the responsibilities on encouraging healthy habits by the educational sector. Part of the responsibilities expressed in this chapter includes detection of obese children and adolescents in order that they can undergo a medical examination. It would be optimal to conduct a yearly evaluation of the nutritional status of all children including measuring their weight, height and waist circumference and calculating their body mass index (BMI) to encourage children and parents to do the following: a) maintain good nutritional status for those children who have achieved it b) alert those who are overweight c) identify obese children.

These anthropometric data should be recorded on the National Health Card. Although the AGREEMENT indicates that children with OAO are referred to a physician, they will soon be back to school where they will have activities that modify their lifestyles as a strategy to reduce this problem. Periodic evaluation of the nutritional status of children is not an exclusive responsibility of the educational sector—it is shared among Health and Education secretaries.

The second chapter describes rights and obligations of the teaching community, teachers, parents and students. It begins with an obligation to include topics on health care in education programs. This is an important aspect; however, it falls within the responsibilities of the educational authorities who, after acknowledging the lack of information in education programs, would promote contents and activities gradually to care for health in general, including those associated with nutrition and exercise. Furthermore, as suggested by the *Specific Actions Program for Schools and Health 2007-2012*, an academic group should propose books according to school grade to teach health care, including topics on health, habits and lifestyles that protect children or those that may expose children and adolescents to health deterioration. The third chapter focuses on responsibilities of health authorities and reports that the Annex should be observed. The fourth chapter focuses on planning, evaluation and follow-up of the AGREEMENT. Statements are closely focused on suppliers to comply with products that meet characteristics explained within the Annex. This commitment settles on a legal document signed by teaching authorities (possibly the School Council on Social Involvement) and the supplier. The document indicates when this commitment can be terminated because of non-fulfillment of the supplier. This chapter has surveillance over the execution, evaluation and follow-up of the school cafeteria, hereby named the School Convenience Establishment. Regrettably, this section lacks evaluation on student health and follow-up during intermediate processes that need to be performed in order to attain this goal.

Annex

This section contains technical and scientific aspects in terms of quantity and proportion of intake of nutriments for children and adolescents. This technical annex represents a substantial effort to reduce student exposure

to foods and nutriments that are potentially “risky” for their health and include saturated fats, transfatty acids, sugars and salt. At the same time, the annex indicates the importance of increasing childrens’ exposure to potentially beneficial foods such as fresh fruits and vegetables, whole grains and plain drinking water. The definition of calories that a snack should contain and the proportion of micronutrients should be made according to international recommendations.¹⁸ This effort has been expanded so that the cafeteria offers a snack that complies with the “correct diet” definition of the AGREEMENT. The annex complies with recommendations made for marketing and publicity on potentially risky foods.^{18,19} However, the AGREEMENT is in favor of selling drinkable water. However, if students should acquire the habit of drinking plain water, it should be given to students without charge. If the purpose is that students learn to drink more plain water rather than sweetened beverages, then they should be given the water without charge. As for the sale of other healthy foods, our best expectation is that the AGREEMENT triggers a gradual change in the food industry and once the production process has been consolidated, these products will reach schools first and then “convenience” stores in large cities, which will represent a great achievement in this sense. Marketing and publicity remain to be regulated to reduce the child’s exposure to direct and subliminal messages encouraging them to consume unhealthy products. This has been partly agreed to by the Mexican Senate.²⁰

Final Comments

Because OAO represents such a large problem in Mexico, government authorities along with the Secretary of Health have implemented a strategy that includes 10 goals for the general population. These goals are associated with changing habits regarding nutrition and physical activity, promoting intake of healthy foods and reducing consumption of “risky” foods, promoting knowledge regarding the nutritional components of processed foods and breastfeeding as the best alternative for newborns.¹⁶ There is a set of responsibilities for each entity involved. Also, a Specific Action Program (SAP) was implemented beginning in 2007 to join school and health authorities and to be able to act against OAO. The first SAP goal is to promote healthy nutrition and physical activity habits in students, generating specific strategies and action directives and establishing a yearly follow-up for attained goals between

2007 and 2012.²¹ Finally, the Secretary of Education (SEP) and the Secretary of Health (SSA), in compliance with commitments in the strategy against OAO, published the AGREEMENT where general guidelines are established for the sale and distribution of foods and beverages in elementary school cafeterias.¹⁵ The Mexican Senate has supported it, authorizing the SSA to regulate foods and beverages as well as their advertising.²⁰ Without a doubt, OAO calls for concern on the aforementioned documents and they have strengths and weaknesses expressed within the AGREEMENT.¹⁵

We consider the following to be the strengths of the AGREEMENT:

1. Acknowledgment that the school is an obesogenic environment that can be changed to a healthy environment by authorities and the teaching community with political strength.
2. Regulation that the school cafeteria buys/sells foods and beverages that comply with technical requirements stated within the annex of this AGREEMENT. This is also considered to be a strong point because these products will reach out-of-school environments nationwide.
3. Incorporate into the school through the School Council for Social Involvement (parents, teachers, ex-alumni, community members interested in school improvement) as an active member of the program, using surveillance that the school cafeteria complies with the AGREEMENT.
4. Include at least one nutrition goal and one health goal to promote the development of healthy nutrition habits in order to be congruent with the teaching mission of the school.

However, it is possible to observe certain aspects that may be qualified as weaknesses or improvement opportunities:

1. According to activities described in the AGREEMENT, the target population does not have an active role to reach a healthy nutrition status. It is essential that persons of all ages are empowered, especially children and their parents because presently it is the only way to resolve this problem.

2. It should not be expected that because the cafeteria sells healthy products, this automatically creates healthy habits. Students still can buy one or more portions according to their budget and hunger.
3. Actions described by the AGREEMENT are not included in an ecological model that analyzes factors involved in elementary students ingesting more energy than they expend.
4. The AGREEMENT does not include actions to encourage physical activity habits, both leisure and recreational in children.
5. There is no reference to schedule and special areas to eat or the importance of perceiving meal time as an opportunity to share and enjoy food.
6. Proposed cafeterias are uniform without considering whether the school has services such as running water, electricity, and proper drainage and whether or not there is a location to house such an establishment. It is possible to establish minimum requirements for at least three establishment types according to available services, size and location of the school.
7. The AGREEMENT focuses on establishments that sell drinking water, but there is no reference on drinking water fountains with the only cost being opening and closing the faucet.
8. There is no implementation program or a consolidation and evaluation model in the mid- and long-term.
9. The AGREEMENT does not mention how commercialization of low-nutritional foods will be regulated near schools because they interfere with the mission of a healthy cafeteria.

The approach on prevention and potential resolution of health problems associated with change of behavior and habits should consider the integration of determinant factors in functional models, as expected to resolve a specific problem. Even though the AGREEMENT focuses only on regulating the buying/selling of healthy foods and beverages at school, this goes beyond the school environment and opens the possibility to include other sectors, e.g., the food industry. Our analysis includes a list of actions aimed at improving nutrition and physical activity habits and includes teachers, parents, students and food vendors inside and outside school facilities (Table 1).

Table 1. Actions that can be taken at elementary schools to empower students with healthy lifestyles and prevent OAO

For teachers

Changes in teachers' curriculum and training

- Include, in educational programs, theoretical and practical topics on healthy nutrition, according to school grade.
- Design educational material on healthy nutrition that can be used at school and at home.
- Provide training in healthy environments and promote healthy habits to emphasize nutrition and exercise.
- Promote healthy nutrition, participating in annual measurements of BMI, waist circumference and arterial pressure.

Nutrition

- Verify that when children arrive at school that they have their own lunch and a beverage, plain water preferably.
- Invite teachers to have lunch with students.

Physical activity

- Teachers should exercise or participate in a physical activity whenever possible as an example for students.
- During classes, there should be 10 minutes of physical activity within the classroom.
- Use games as a prize (for physical activity) instead of food.

For parents

Nutrition

- Carry out workshops with parents and their children where they can learn about menus, food and nutrition.
- Parents and the entire family should participate in developing healthy nutritional habits, promoting the following:
 1. The child has breakfast at home, except when participating in school-provided breakfast programs.
 2. The child brings a healthy lunch from home.
 3. If children have had breakfast at home, they should not receive money to buy foods and beverages at school.

Physical activity

- Promote the importance of reducing sedentary activities at home such as watching television, video-gaming, etc.
- Promote parents to have students walk or bicycle to school.

Nutritional evaluation

- Encourage parents to be aware of the nutritional evaluations of their children and to know the benefits of maintaining a normal nutrition status and the risks involved with overweight and obesity.

For children

Nutrition

- Children should eat at a time that is different from leisure time, with their classmates and teachers.

Physical activity

- Thirty minutes of leisure time should serve this purpose this time should not be used for eating or having physical education class.
- Leisure time should promote spontaneous games among children.
- Recreational activities should be allowed during physical education class.

Evaluation of nutritional status

- Annually measure the nutritional status of students using BMI, waist circumference and arterial pressure tests. These data should be recorded on the child's Health Card.
- Inform students and their parents of the results of evaluation.
- Inform parents through personalized letters on those habits that should be kept or avoided to maintain or improve the nutritional status of their child.

School authorities

Nutrition

- School cafeteria should sell healthful foods and beverages.
- Drinking fountains should be available with one being located within the cafeteria, providing children with plain drinking water *ad libitum*.
- Regulate sale of foods near school facilities both during arrival and departure of students.

Physical activity

- Modify school environment so that children can arrive at school by walking or bicycling.

Nutritional evaluation

- Maintain a personal record for each student to integrate a cohort and evaluate expected changes.

OAO, overweight and obesity; BMI, body mass index; WC, waist circumference; AT, arterial tension.

We hope that the importance of this problem will lead to the integration of actions required for its containment without fragmenting them in several programs. We would like to offer a reminder of the advice given by Don Quixote to Sancho to rule his Isle:

“Do not create many laws and, if you do, try that they be good and, above all, will be observed.”

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