

# A holistic approach to combating overweight and obesity in 6 to 11 year-old children in Aruba.

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## Introduction.

Overweight and obesity—poor nutrition due to excess caloric intake—is an epidemic that affects individuals of all ages, sexes, races, and areas of the world, regardless of their socioeconomic status. It is the result of a positive energy balance over an extended period of time.

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It is possible to achieve a negative energy balance—the only effective treatment for obesity—by increasing physical activity and/or reducing total intake of food energy. For this reason, any action taken must be designed to encourage a healthy lifestyle through moderate and intense physical activity coupled with an appropriate diet.

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In order for the individuals of a population to maintain healthy lifestyles, it is necessary for them to become active participants in the search for the methods that will allow them to achieve those lifestyles; these methods should then be employed using a holistic approach, in which the harmonic integration of all components facilitates the most efficient participation with the greatest residual effect.

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Due to the multi-faceted nature of therapeutic obesity treatment, it should become the focus of many sectors or individuals in society. The fact is that there is no magic treatment for obesity, and therefore doctors, medical personnel, teachers, parents, public health officials, and other public officials, together with formal and informal community leaders, must join forces in order to apply programs or measures to prevent the continual increase in the number of cases and at the same time help those already affected to reduce their excess body fat and even restore their bodies to a healthy weight.

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When dealing with obesity, everyone has the obligation to join in the fight to overcome and control it; otherwise, due to the complications that arise from this illness, it will surely end up significantly jeopardizing sooner, rather than later, the health status of the population. It is important to bear in mind that the treatment of an obese individual must come from various sources in such a way that together they allow the formation of a holistic treatment of the illness.

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The purpose of this document is to set forth a holistic **plan of action** that will contribute to the prevention and reduction of poor nutrition due to excess caloric intake in 6 to 11 year-old school children in Aruba through integrated measures that include the foundation of the “Alianza contra la Obesidad” (hereinafter, Alliance against Obesity), which will allow teachers, parents, children, food handlers,

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and merchants to receive training on physical activity and healthy nutrition, and increased social dialog about healthy lifestyles that will help to increase physical activity and achieve healthy diets in Aruba.



Development.

The **plan of action** includes promotional, preventive, curative, and rehabilitative measures. It consists of: An alliance against obesity; social dialog about physical activity and healthy diets; training for teachers, parents, children, food handlers, and merchants; actions that will increase the level of physical activity; and actions that will promote healthy diets.

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### 1. Creation and development of the “Alliance against Obesity”

Community participation, through leaders and representatives, is the only way to successfully take the measures necessary to combat overweight and obesity.

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One of the most efficient and effective tools of this type of participation is the creation and proper functioning of an organization made up of community leaders and representatives. This organization could be called the “ALLIANCE AGAINST OBESITY”.

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#### Objectives.

- Form an organization that contributes to the prevention and reduction of overweight and obesity.
- Encourage action to promote active lifestyles and healthy diets.

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#### Participants.

Government representatives, educational authorities, teachers, public health authorities, doctors, psychologists, nurses, social workers, religious authorities, public safety authorities, nutritionists, the Olympic committee, sports authorities, sports coaches, dance instructors, recreational activity instructors, community leaders, boys and girls from 6 to 11, merchants, food handlers, social communicators, media representatives, and anyone else who may be able to help in some way.

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#### Procedures.

- Identify all possible Alliance participants in order to provide them with current information about overweight and obesity and about elementary-school lifestyles. Potential Alliance participants should be invited to join the organization.
- Care must be taken to form the Alliance in accordance with all formalities necessary to ensure active, positive participation of all entities capable of promoting

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measures to combat overweight and obesity.

- The Alliance should be run in a democratic fashion, based on current scientific information, and should search for solutions to the obesity problem in order to carry out measures that will contribute to increasing the level of physical activity, improving dietary habits, and reducing overweight and obesity.

- The Alliance is to promote the dissemination of information about prevention and reduction of sedentary lifestyles, poor dietary habits, overweight, and obesity.

## 2. Training to promote safe, healthy diets.

In order to successfully reduce and prevent poor nutrition due to excess caloric intake, active participation of teachers, parents, and children is necessary. This is only possible through the dissemination of knowledge about diet, nutrition, and physical activity.

Dissemination of this knowledge can be achieved through proper training of teachers on the topic so that they can instruct parents and students.

These training measures are based on teacher development courses that have the dual purpose of providing teachers with information about physical activity, diet, and nutrition, as well as training them to teach this information to parents and children who attend their schools.

### Training Objectives

- Teach teachers, parents, school children, food handlers, and merchants the basic principles of physical activity, diet, and nutrition.
- Encourage healthy lifestyles based on good dietary habits and physical activity.

### The training consists of:

- Teacher training
- Parent training
- Plan for teaching physical activity, diet, and food hygiene in schools.
- Food handler training.
- Merchant training.

### Training Components.

#### 1. Teacher training

In order to reduce and prevent overweight and obesity within a population, participation of different community leaders, including teachers, is necessary.

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The role of teachers in the communication of knowledge that will contribute to training more active people with better dietary habits is important, both because of its direct effect on children and its influence on parents' behavior.

This Plan takes into account the fact that a teacher can perform his or her duty both in the classroom and in extracurricular activities.

The teachers' course will teach: physical activity, diet, and food hygiene for school-age children, with the following objectives:

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Analyze the scientific basis of the importance of physical activity in school-age children.

Correctly understand the basic principles of diet and food hygiene.

Identify methods that can be used to teach adults and children about healthy lifestyles.

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These objectives will be reached through the following thematic units:

Physical activity. Physical education in school. Extracurricular physical activities: sports, dance, games, and individual exercise, among others.

Diet and nutritional state of 6 to 11 year-old children in Aruba: Behavior of poor school nutrition and its possible health effects. Measures for avoidance and/or elimination. Measures for preserving the nutritional and antioxidant quality of food.

The relationship between sedentary lifestyle and poor dietary habits and obesity and other health problems in children. Procedures for avoiding and reducing obesity in school-age children.

Dietary hygiene.

Procedures for training parents in physical activity, diet, and dietary hygiene to improve the health of their children.

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## 2. Parent training

Parents have the obligation to ensure that their children are active and healthy, and that they receive proper nutrition, which means that they need the knowledge that will allow them to reach these goals; therefore, they will participate in the Active and healthy children course, which has the following objectives:

Correctly understand the importance of physical activity during the school-age years.

Identify the basic principles of diet and food hygiene.

Determine the most effective methods for encouraging a healthy lifestyle in their children.

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These objectives will be achieved through the following thematic units:

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Physical activity. Physical Education in School. Extracurricular Physical Activity: sports, dance, games, and individual exercise, among others.

Basic principles of nutrition. Measures for preserving the nutritional and antioxidant quality of food.

Healthy diets

Food safety.

Procedures for raising the level of physical activity and improving dietary habits and hygiene in children.

Plan for teaching physical activity, diet, and food hygiene in schools.

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### 3. Plan for teaching physical activity, diet, and food hygiene in schools.

Prevention and reduction of obesity is only possible with the conscious participation of those prone to becoming obese. In the case of children, regardless of age limitations, it is necessary that they understand and are able to take advantage of the opportunities they have at their age to grow into active, healthy people. School-age children will take the How to be a winner!!! course, which has the following objectives:

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Teach the basic principles of a healthy lifestyle.

Promote healthy lifestyles.

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These objectives will be achieved through the following thematic units:

The benefits of constant physical exercise and sports.

Food. The most important characteristics of different types of foods.

Good dietary habits. Foods that should be eaten frequently and foods that should be avoided.

Food safety.

Healthy and active children.

Food handler training.

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### 4. Food handler training.

One of the requirements of any good diet is the preparation of food by people who know how to prepare healthy food products, which means that they must understand the characteristics of food based on its composition, as well as the measures that must be taken to ensure sanitary handling of that food. Food handlers will take the Safe and healthy food course, which has the following objectives:

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Provide technical information about food composition and the practical use of this knowledge in providing healthy food.

Identify the measures that must be taken to ensure food safety.

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These objectives will be achieved through the following thematic units:

Food and health.

Food composition. Types of foods based on composition. Measures for preserving the nutritional quality and antioxidant characteristics of food.

Food contaminants. Factors in contamination, multiplication, and survival of food-borne disease agents.

Prevention and control of food-borne diseases.

Preparation of safe, healthy food.

#### 5. Merchant training.

Food sales and marketing must also be considered when dealing with the promotion and consumption of safe, healthy food within a population; sanitary measures must be taken into account, as well as the increase in supply of products that, due to their make up, promote a healthier diet. Food merchants will take the Healthy food marketing course, which has the following objectives:

Provide technical information about healthy diets.

Explain the measures that must be taken to ensure food safety.

These objectives will be achieved through the following thematic units:

Food composition. Types of foods based on composition. Measures for preserving the nutritional quality and antioxidant characteristics of food.

Sanitary handling of food.

Marketing of safe and healthy foods.

### 3. Public dialog on physical activity and healthy diets

Because of the implications of weight on the health of a population, it is essential that the individuals in the community be properly informed about what they need to do to achieve and maintain proper weight according to their age, sex, and height.

Recommendations for level of physical activity, good dietary habits, and food safety are among the information that must be provided to the community.

#### Objectives.

- Broadcast messages about physical activity and healthy diet
- Promote healthy lifestyles in elementary school-age children.
- Raise the population's dietary culture.

#### Messages to be broadcast.

- Moderate and intense physical activity improves health and personal appear-

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ance.

- Get 90 minutes of moderate and intense physical activity every day.
- You can be active if you want to.
- Decide to be active and your quality of life will improve.
- Participate in "Physical Activity Day".
- Walk to and from school.
- Relax after participating in moderate and intense physical activity.
- You should use proper protection when participating in physical activities.
- Breakfast is the most important meal of the day.
- It is better to eat many times a day; but just a small portion each time.
- Eat at least 9 servings of fruit and vegetables each day.
- Choose non-fried foods.
- Eating "junk food" may be hazardous to your health.
- Choose fish and chicken over pork and beef.
- Eat low-fat dairy products.
- Use small amounts of salt (sodium) of any kind. Iodized salt is preferred.
- Eat less free sugars.
- Drink natural fruit and vegetable juices without added sugar.
- Choose whole foods.
- Reduce consumption of sausages, smoked, and salted meats.
- It is easy to ensure food safety. Safe foods help keep you healthy.

These messages are to be broadcast on popular programs, without formalities.

Interesting characters will be used to broadcast these messages; for example, a happy, strong, green, human-figure mascot, wearing sports clothing and equipment, proper protective equipment, using appropriate background music, showing friendly, winner's gestures.

Messages will be created and broadcast according to the age, characteristics, and special needs of the target audience.

Messages for this intervention program could be incorporated into comics or spots for broadcast on television or radio, publication in newspapers, or performance in theaters or puppet shows, etc.

Messages must always be uplifting, never negative, always positive, and must never make harsh or discriminatory criticisms.

Broadcasting of the same messages repeatedly through a combination of dramatization, songs, posters, and other forms of communication is recommended. Messages should be designed to help children, parents, teachers, merchants, and others develop the consciousness necessary to combat obesity.

4. Actions for raising the level of physical activity

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The World Health Organization (WHO) has defined physical activity as any movement that forms a part of daily life, including work, recreation, exercise, and sports. It is necessary for promoting and conserving good health.

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The quality of physical activity depends upon the time, intensity, and frequency with which it is performed.

Creating a healthy population means achieving higher levels of physical activity that prevent sedentary lifestyles and their related health problems, such as overweight and obesity.

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Children must participate in systematic and regular physical activity in order to improve their current health and promote a better quality of life in the future.

#### Objectives for raising physical activity levels

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- Promote systematic and regular moderate and intense physical activity in elementary-age children.
- Develop the proper habits and behavior that will lead to a healthy lifestyle in school-age children.
- Contribute to the physical and mental development of school-age children.

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#### Goals to be achieved.

A plan must be developed that will allow over 90 minutes of physical activity to be accumulated each day, 30 minutes of which must be intense physical activity.

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Moderate and intense activity may be performed throughout the day for periods of 10 minutes and 5 minutes, respectively.

#### The following measures should be taken for raising the level of physical activity:

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1. In-school physical activity plan
2. Extracurricular physical activity plan
3. Guide to help teachers contribute to raising students' level of physical activity
4. Guide to help parents contribute to raising children's level of physical activity
5. Active student's guide

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Both before and during physical activities, protective measures must be taken to avoid accidents and injuries; this includes the use of helmets, knee, ankle, and elbow protection, proper shoes, and other equipment depending on the type of activity. Use of this equipment is required.

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Activities should be carried out in places that ensure children's safety, such as bicycle lanes, safe paths or trails for biking or walking, fenced and protected recreational areas, etc. Children should use proper clothing such as shorts and sweat-

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shirts.

Types of actions for raising physical activity levels:

1. In-school physical activity plan.

From ages 6 to 11, children begin to spend more time with teachers and classmates outside of the home environment, which raises the level of importance of the school in their education. Therefore, cognitive learning should be taught in schools along with psychosocial relationships and lifestyles.

This stage of a child's life is, therefore, an appropriate time to incorporate the lifestyle modifications desired, in an attempt to fit more and more significant physical activity among teaching activities, so that it becomes a lifelong habit, paving the way for a profound change in the lives of the men and women of the future.

When children begin school, they are excited and eager to participate in all school-related activities, which means that it is necessary to use the best methods to take advantage of this unique opportunity and capture their interest to create good habits and lifestyles, including proper physical activity, that will be maintained for life.

Physical education for school-age children must teach them how to properly perform the physical exercise necessary for growth, establish habits and customs related to physical activity that will last throughout their lives, thus promoting physical and mental development.

Physical education of school-age children must develop the strength, speed, endurance, balance, coordination, spatial orientation, rhythm, and flexibility that pertain to the neurodevelopment of that age group.

Physical education classes should be held three times per week, for 60 minutes each time. It is advisable to begin with 10 minutes of warm-up exercises, dedicate 45 minutes to the main activity, such as basic exercises and games, then finish class with 5 minutes of cool-down time.

At age 9, children can begin doing stretching and relaxation exercises which, when alternated, play an important role in energy expenditure and also offer many health benefits.

**5. Measures that promote a healthy diet**

Proper diet is of particular importance in determining a person's state of health and exerts a powerful influence on general quality of life.

In relation to the plans presented above, it is also necessary to plan, organize, and



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carry out actions designed to improve the population's level of food and nutrition education, so that its members can better utilize the components of their daily diets.

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Objectives:

- Develop specific activities that contribute to the improvement of the population's dietary habits, especially for 6- to 11-year-old children.
- Provide information about the scientific basis of a healthy diet.

The following measures will help achieve a healthy diet:

1. Breakfast campaign
2. Healthy diet campaign
3. Toward a healthy life through a healthy diet.
4. Guide to safe food
5. Children's manuals

Breakdown of the actions:

1. Breakfast campaign

When school-age children eat breakfast on a daily basis, it has a direct impact on their development, both physically and mentally. Skipping breakfast plays an major role in the incidence of later health problems, including obesity.

The purpose of the BREAKFAST CAMPAIGN is to increase the number of children who eat breakfast on a daily basis.

Procedure:

- Based on surveys of parents and teachers, children who do not eat breakfast, as well as the reason for skipping this meal will be identified, and the parents' and teachers' feedback sought.

- Information about the benefits of breakfast to children's health will be provided as part of the teachers', parents', and children's training.

- Using teachers as facilitators and promoters, meetings will be held with parents, divided according to their children's grade, in order to:

1. Identify the problem of children not eating a daily breakfast,
2. Analyze the reasons for the problem, and
3. Find possible solutions that will ensure that children have a proper breakfast every day.

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- Teachers, with parents' permission, will follow up on the breakfast habits of the children, once the best solutions for ensuring this meal have been identified.

- Teachers, parents, and children will develop follow-up actions that will strengthen and promote the campaign until all children are having breakfast every day.

## 2. Healthy diet campaign

One of the most important measures that must be taken to improve the quality of school-age children's diet is to reduce the intake of fried foods and refined sugars, and increase the consumption of fruits and vegetables. Active community participation of parents, children, and teachers will allow the HEALTHY DIET CAMPAIGN to go forward and to achieve its goals, thus improving children's quality of life.

### Procedure:

- Based on surveys of parents and teachers, children who consume an excess of fried foods and refined sugars and children who do not consume an adequate amount of fruits and vegetables will be identified, as will the reasons for this problem and the parents' and teachers' viewpoints on the matter.

- As part of the teachers', parents', and children's training, information will be provided about the benefits to children's health of limiting consumption of fried foods and refined sugars, and raising the consumption of fruits and vegetables to over 5 servings per day.

- Using teachers as facilitators and promoters, meetings will be held with parents, according to their children's grade, in order to:

1. Identify children's excess consumption of fried foods and refined sugars,
2. Determine the average amount of fruits and vegetables consumed,
3. Analyze the reasons for these habits, and
4. Find possible solutions for improving the children's diet.

- Teachers, with parents' permission, will follow up on the dietary habits of the children, once the best solutions for ensuring a good diet have been identified.

- With the active participation of teachers, parents, and children, healthy diet activities will be held, follow-up measures that strengthen and promote this campaign will be taken, and actions relating to solutions found in parents' and teachers' meetings will be implemented.

## 3. Toward a healthy life through a healthy diet.

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The following messages will help to preserve good health:

- Eat slowly. Chew thoroughly!!
  - Your body weight depends a lot on your diet. Know your proper body weight!
  - Always eat a variety of foods. It tastes better that way, and it is better for you.
  - It is healthier to eat smaller portions many times a day.
  - Every day should begin with a breakfast that provides sufficient quantity and quality.
  - Eating a variety of fruits and vegetables each day contributes significantly to a healthy life.
  - Your diet will be healthier if it contains different types of grains, especially whole grains.
  - Lean meat, fish, and skinless chicken are all an important part of a healthy diet.
  - Eating small amounts of vegetable oils will protect your health. Use them instead of animal fats!
  - Dairy products in the diet should be low in fat.
  - Drinks and foods high in refined sugars should be eaten in small amounts.
  - Reduce the amount of salt (sodium) you put on food.
  - Drink a proper amount of safe drinking water every day.
  - Take proper sanitary measures when preparing and storing food to ensure its safety.
- Always eat as a family.

REMEMBER THAT ONLY A HEALTHY DIET CAN ADD YEARS TO YOUR LIFE AND PUT MORE LIFE INTO EACH YEAR.

#### 4. Guide to safe food

A diet should not only be healthy, but also ensure that food does not contain communicable disease agents. Some important measures for avoiding these types of diseases are explained below:

- Maintain cleanliness.

It is extremely important to thoroughly clean any surface that may come into contact with food, and to wash your hands properly to avoid food contamination.

- Use water and ingredients from a trusted source.

Water should be safe and the ingredients used to prepare meals should be obtained from providers who have a reputation for selling safe food products.

- Cook food well, wash fruits and vegetables.

Foods that need to be cooked must be cooked at temperatures above 70 degrees Celsius (158 degrees Fahrenheit). Fruits and vegetables should be properly

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washed with pressurized water to remove dirt and contaminants that may be stuck to their surfaces.

- Avoid contact between food that is ready to eat and raw products.

It is important to avoid cross contamination of food that is ready to be eaten through direct or indirect contact with raw foods or dirty surfaces where pathogens may be found.

- Keep food at safe temperatures.

Hot foods should be kept at temperatures above 60 degrees Celsius (140 degrees Fahrenheit), and cold foods should be kept at less than 5 degrees Celsius (42 degrees Fahrenheit) to avoid multiplication or growth of microorganisms that may be found on food and which can cause disease.

## 6. Children's manuals

Chew your food well!!

Eat breakfast every day!!!!

Eating lots of different foods tastes better.

It is healthier to eat smaller meals several times a day.

Eating grains, vegetables, and fruits every day will help you to grow up strong and good-looking.

Fish and chicken are good for you.

It is better to eat as a family

IF YOU WANT TO BE FULL OF LIFE, EAT A HEALTHY DIET!!!

The following indicators will be used to evaluate this plan of action:

Acceptance of the ALLIANCE AGAINST OBESITY. Functionality. Cooperation.

Messages about physical activity and healthy diets created, broadcast, and remembered.

Teachers trained. Knowledge level.

Parents trained. Knowledge level.

Children trained. Knowledge level.

Food handlers trained. Knowledge level.

Merchants trained. Knowledge level.

Schools provided with attractive, protected areas for: sports, dancing, and games

Physical education program in schools. Time set aside each day for physical education for each grade. Homework done at home.

Schools implement extracurricular activities: sports, dancing, games, and individual exercise

Time set aside each day for extracurricular activities

Children that meet physical activity requirements

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Children that increase their moderate and intense physical activity  
Children that play sports  
Children that dance  
Children that play active games  
Time set aside each day for moderate and intense physical activity for eutrophic, overweight, and obese children. (grouped by sex, age, and school)  
Teachers', parents', and children's feedback on the physical activities.

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By age and by sex:  
Eutrophic children  
Overweight children  
Obese children  
Children who consume more than the recommended energy intake  
Children who eat breakfast  
Children who eat the proper number of meals per day  
Children who eat more than 5 servings of fruits and vegetables  
Children who increase consumption of fruits and vegetables  
Children who reduce consumption of fried foods and refined sugars

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Acceptance of plan of action by government, education and health authorities, community leaders, and children, among other people.

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#### Conclusions.

Proper holistic implementation of the individual components of this plan of action will prevent and reduce overweight and obesity in 6- to 11-year-old children, and will have a positive influence on the rest of the population's state of health.

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