

Health promotion program for primary school children: the “adopt an alien” food education pilot project

Abstract

During the last 30years Europe is targeting overweight and obesity as a major challenge. “Adopt an alien” is a healthy lifestyle and balanced diet promotion program which targets primary school children. The pilot project involved two schools and 240 children. The programme included three meetings with children, two with parents and two with teachers. Results show that 97% of children take breakfast and all the children consume a healthy snack if provided by the school. 36% of children watched the TV before going to school prior to the programme, while this had fallen to 30% after the intervention. In recent years many programs have been developed to manage obesity, but to make an impact it is important to act on more factors and for longer durations. Even though the program obtained positive results, we are still far from the goal of reducing obesity.

Keywords: health promotion, food education, children, primary school, adopt an alien, globesity, okkio alla salute, psycho-social diseases, environmental factors, body mass index, lower socio-economic, ricette spaziali; episodi spaziali, ricette spaziali, pillole di cartone, italiano, art, science, pedagogic activism, cardiovascular disease, tumors, diabetes

Introduction

In the last 15years the prevalence of being overweight and obesity has significantly increased worldwide, becoming, as the WHO declared, a real epidemic or “globesity”.¹ More particularly, in the last 30years the phenomenon has grown especially among children and adolescents.² This is for the WHO one of the main current public health problems and to deal with it global strategies based on diet, physical activity and lifestyle are being developed. It has largely been demonstrated that being overweight in childhood increases the risk of developing obesity and its consequences in adulthood³ being overweight and obesity are the starting point for chronic and degenerative diseases: cardiovascular, endocrine, gastrointestinal, tumor and psycho-social diseases (depression, eating disorders).⁴ Recent international surveys show that in most of the European countries more than half of the adult population is overweight and 20-30 % is obese; among children the prevalence of being overweight is 20%, of which a third is obese.⁵ There are multiple factors responsible for the increase in this phenomenon. An improvement of socio-economic conditions, associated with a sedentary lifestyle and high calorie food consumption seems to be involved. These are factors attributable to personal modifiable choices, but beneath these there are complex community dynamics which involve different sectors - family, school, public health, mass media.^{6,7} Obesity is a multifactorial disorder which arises from the interaction of genetic and environmental factors, each of which has its own mechanisms, e.g. genetic expression, lifestyle, economic factors and education. Many studies highlight the important relation between Body Mass Index (BMI) and education level; in this relation the family context seems to be essential.⁸ Moreover, the fight against being overweight and obesity is a priority for institutions because of their high costs and consequences. Obesity increases mortality, reduces life expectation by 6-7years and up to 20years in the worst cases, alters organs and

systems, facilitates diseases to become chronic (cardiovascular disease, tumors, diabetes) and increases public health costs.⁹ Other studies point out that being overweight is likewise related to bad habits such as the tendency to eat high calorie food during the morning due to skipping breakfast.¹⁰ One of the key points for a balanced diet is the consumption of fruit and vegetables which supply vitamins, fiber and minerals, as well as reducing the energy density of the diet. In this respect, healthy diet guidelines suggest taking at least 5 portions of fruit and vegetables per day. Furthermore, many poor eating habits are often related to lower socio-economic status and to the marketing of food.⁵ Skipping breakfast and low consumption of fruit and vegetables are more frequent in children whose parents have low education levels and low income, and such parents are less likely to recognise excess weight excess in their sons.¹¹

Against this background, the first step to fight obesity is to involve families and to try to increase and strengthen the parents' perception of their children's weight. Correct food habits acquired in childhood and an active lifestyle contribute to better health in adulthood. A program of interventions focused on health education for children and parents is needed to fight bad habits and promote a healthy diet.¹² The WHO emphasizes that every intervention on weight reduction and obesity has to consider the family's primary role in influencing children's behaviour both in diet and physical activity in order to be effective.⁵ The school is a fundamental setting to help achieve these aims. It is an ideal and essential setting to talk about diet and healthy lifestyle and to propose initiatives.¹³

Objectives

The “Adopt an Alien” project aims to promote a balanced diet starting from school and to offer the opportunity to children and families to improve health and wellness. There are two main objectives to the intervention:

To draw families' attention to and to help them to improve their diet and fight bad eating habits;

To develop awareness in children on food choices and to give them tools to improve their diet.

A. From these main objectives, other specific objectives have been developed:

To promote a Health Culture which could improve protective factors (self-esteem, creativity and being critical) and healthy activities (movement, playing outside etc.) in children 7-9years old; To hold children and adults responsible for the consequences of their behaviour and choices for them and for the environment, to modify non sustainable behaviours into self-care, care for the others and for the own area; To disseminate knowledge about seasonal and local products (paying more attention to the quality);

B. To support parents and teachers with online material at www.miprendocura.it

Materials and methods

The pilot project consisted of a number of interventions spread out through two years (from 2013 to 2015). Two primary schools have been involved from Milan and Perugia, with 240 children attending the 3rd, 4th and 5th class (9-10 years old). The three target groups for the intervention are children, teachers and families. This paper refers to the intervention achieved in Perugia. In order to address the projects objectives, a collaborative project between the areas of Education and Health was created. The action plan for the project proposed a number of complementary and consecutive steps:

- i. Administration of a baseline questionnaire (before the intervention) to understand the levels of knowledge, the kinds of behaviour and the needs of each class, and of an outcome questionnaire (at the end of the project) to collect results.
- ii. Two 1,5 hours meetings and one 2 hours meeting with each class, during which working groups have been created.
- iii. Two 2 hours meetings with teachers. In the first meeting the project was explained, and efforts were made to connect it as much as possible to the school subjects of Italian, art and science. The second meeting was organized after the second working group round in each class, with the purpose of monitoring any changes in knowledge and approach to nutrition.
- iv. Two 2 hours meetings with parents. The first meeting introduced the project and the second meeting presented the results from the project. Both meetings have been conducted with an educationalist and with the nutritionist from the Local Health Utility of Perugia.
- v. Data analysis - evaluation of changes in acquired knowledge of classes and individual children.

The data collection tool used was a multiple choice questionnaire where children can choose one or more correct answers per question. Data collection was performed in an anonymous way. The first part of the intervention focused on the issue of healthy seasonal food. Discovering seasonal food can be structured as an adventure for children and can be used to introduce children to new foods, colors, aromas and flavors'. To each child has been asked to create with beeswax and wool their own baby alien, with cradles and houses, with

the purpose of feeding it. In order to structure this experience, the intervention has created a set of "Ricette Spaziali" (space recipes). These are used by the children to develop meals, where children have to recognize the tastes and preferences of the baby alien through a set of "Episodi Spaziali" (space episodes) cartoons. To support the development of these menus are used cards and dried fruit for taste tests. The exercise can also be continued in the home: each class received the book "Ricette Spaziali" and instructions to access the cartoon via the internet at www.miprendocura.it in the "Pillole di Cartone" (cartoon pills) section. Each cartoon episode aims to facilitate the transition from virtual to experiential, to add value to the relationship with adults (parents at home and teachers at school) with whom children can play at preparing snacks and dishes. The teachers participating in the project received all the information needed to continue the intervention and to relate it to different school subjects (Italian, art, science). To take care of a baby alien feeding him with healthy food is an example of educational intervention through which educational messages based on scientific evidences can be transmitted pleasantly and efficiently (i.e. the need to have breakfast and eat more fruit and vegetables). The methods used by the intervention are pedagogic activism, different methods of play method, narrative empathy and diary keeping.

Results

It is now generally acknowledged how a balanced diet as well as an appropriate meal distribution during the day, are the bases upon which healthy nutrition is grounded. For children, breakfast and midmorning snacks are especially important to give enough energy for the morning activities until lunch time. Nevertheless, national data show that up to 9% of children report that they do not have breakfast.¹⁴ Our data is more reassuring, as they show that 97% of our sample of children does have breakfast. Regarding the midmorning snack, an adequate snack was considered to be fruit or yogurt or fruit juice (without added sugar) which contains circa 100 calories. The questionnaire results show that 100% of children eat the snack if it is provided by the school and, moreover, analysis of the content of the snacks provided show that school supplied snacks were always classified as being adequate. These data should be and could be a starting point to promote the distribution of a healthy midmorning snack in schools as a nutritional education tool and with the aim, besides, of supporting adequately activity of kids during school hours. Regarding sedentary activities the 2014 "Okkio alla Salute" national report found that in Italy, 66% of children spend up to 2 hours on such activities, circa 27% spend from 3 to 4 hours and almost 6% of them 5 hours or more, despite international recommendations that suggest children should spend less than 2 hours on watching the TV or playing at the videogames. Moreover, the "Okkio alla Salute" report shows that as many as 38% of children watch the TV before going to school, circa 70% watch the TV or play videogames in the afternoon and up to 75% in the evening.¹⁵ The data emerged from our incoming questionnaires show how that day 36% of children watched the TV before going to school. This percentage decreases to 30% after the education activities. In the afternoon 62% of children watched TV or played videogames, while only 30% of them spent time playing outside. In the evening these sedentary activities involve up to 75% of children and another relevant observation is that 30% of children consume high sugar food or drinks after dinner.

Discussion

This project was limited of a brief duration and as might be

expected, the results from the study are limited by its design, but even so it does highlight the necessity of shared action planning which is able to involve at the very beginning families and the people around them. The project also highlighted the need for a strong element of evaluation of outcomes. A health promotion intervention must have a global vision that considers school and family as main actors in their own cultural, social and policy context. Furthermore, education and training should be continuous and long-term processes, which proceed even outside the school. The analysis suggests that there is still a way to go achieve targets and that more time and work on training and education is needed. Given that the results depend on institutions but also on each individual, one basic target should be to direct intervention policies at the individual's level of awareness, starting with those who are at the beginning of their education - children. The school, which can be seen as the cornerstone of the creation and promotion of culture, represents the ideal place for supporting and managing nutritional education, with the essential participation and support of families.

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Conflict of interest

Author declares that there is no conflict of interest.

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