

Forma Brasil

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Abstract

Evidence from the literature is clear regarding the health problems the world population face due to overweight and obesity. We firmly believe that prevention actions are the most effective and economically viable tools for solving health problems, and especially that such care should begin since early childhood, with the school as a key element in the construction of a prevention model. The objective of the study is to describe the production and development of a school health prevention program, applied in cycles that act in a systemic way, making it possible to act directly in the focus of the problem detected in overweight and obese students and family members. The program consists of regularly applying the three pillars of health: regular physical activity for students, considering their individual overall health condition; nutritional counseling for students and families; monitoring of indicators for early diagnosis. All methodology is designed to eliminate process inefficiencies so that the generated indicators enable managers to make strategic decisions with each new work cycle. We ran a pilot program at a school in the city of Uberaba, MG, Brazil. The results showed a reduction of body fat percentage in 100% of program participants. The average reduction was 4.23% of body fat within two and a half months of experience. Numerous other indicators have been measured and the results show clear evidence of how the program with high dissemination capacity presents itself as a promising tool for the promotion of health care.

Keywords: obesity, health promotion, exercise, physical education, primary prevention

1. Introduction

The convenience generated by technological advances (computers, smartphones, tablets, television, video games, etc.) has contributed to the fact that children and teenagers do not exercise regularly. Physical activities at school, for the most part, have not been developed as elements that offer stimuli to the regular practice of physical exercises.

Both these conditions can be regarded as the main factors behind sedentarism and child obesity. Child obesity is a strong predictor of its continuity in adulthood, with the consequent risks of cardiovascular disease and diabetes (Steinberger J. & Daniels S.R, 2003). It can also lead to isolation, psychological disorders and low self-esteem. For these reasons, interventions for obesity prevention should focus on the regular and pleasurable practice of physical activity associated with orientation towards healthy eating.

We believe that the development of a methodology of Physical Education teaching based on the application of functional exercises is a stimulating factor for teenagers to adhere and children to mature in a new routine, with its development conceived within the health and quality of life parameters that are based upon the pillars of regular physical activity and good nutrition. It is important to point out that these pillars (regular physical activity and good nutrition) depend exclusively on the establishment of habits, and there is no better stage to develop such habits than in early childhood.

1.1 Objectives

The objective of this pilot is to develop a multisectorial program with specific actions in the healthcare area, education, social welfare and sports, starting from the creation of a methodology of physical activities for schools (within the subject of Physical Education) using functional exercises aimed at physical conditioning (cardiovascular and muscular) and nutrition guidance, enabling a substantial improvement in health markers, social welfare and in the establishment of daily healthy practices, creating the proper environment for the development of learning.

1.1.1 Specific Objectives

Expand the application of the program based upon data generated by the pilot, thus proposing a reformulation of the process, bringing the regular practice of physical activity and the awareness of the benefits of good nutrition to the classes as the main focus, thus expanding the repertoire of students in the perception of the term health.

Apply the methodology, allowing students the opportunity to grow within a context based on the pillars of health, which are permanent physical activity, good nutrition and early diagnosis.

Develop an electronic operating system (software) for program application and management in order to interact with essential areas for maintenance and process control, ensuring the sequence of actions regardless of those involved in the activities, allowing for the effective monitoring and permanent control of the program as well as the generation of markers that help in decision making in the strategic areas involved in the process.

2. METHODS

To achieve the objectives, the methodology was comprised of 3 weekly hours of Physical Education classes. The study group consisted of 31 children of both sexes, aged between 11 and 14 years old, from a public school in the city of Uberaba, MG. The following procedures were used for the initial analysis of each student: measures of circumferences, height, weight, skin folds, following the 3-site skin fold protocol in order to assess the percentage of body fat and verify blood pressure. A blood sample was collected for Glycemia, Cholesterol and Triglycerides check.

After data collection, physical activity protocols were initiated in the school environment, according to the natural development of each child's physical capabilities. Concurrently with these classes, all the students who, according to the physical evaluation performed in the first class of the program, had a percentage of body fat above the health parameters were visited by the nutritionist of the program, who collected numerous information about the routine of the family and their lifestyle, and also presented a thorough process to assist the family in improving habits so that this would impact everyone within the environment in which the student is inserted outside school.

Assessments were made in the first class of the year and again at the end of the school year. All procedures described here were previously informed to the students' parents, who signed a free and informed consent form of all the procedures to be performed.

2.1 Results

At the end of the pilot, the results showed:

Reduction of triglyceride levels in 46% of individuals, reduction of cholesterol in 20% of individuals and reduction of glucose in 70% of individuals.

In the analysis of anthropometric measures there was an average reduction of 4.23% of body fat in all individuals. It was also possible to observe changes in behavioral and cognitive aspects. Through a technical opinion from the school it was informed that among the students participating in the pilot program:

Reduction of 50% in the number of students below average in mathematics; 100% reduction in the number of students below average in Portuguese; 90% reduction in the number of parents called in school because of indiscipline.

Figure 1: percentage of individuals who showed reduction in levels of triglycerides, cholesterol and glucose in their blood.

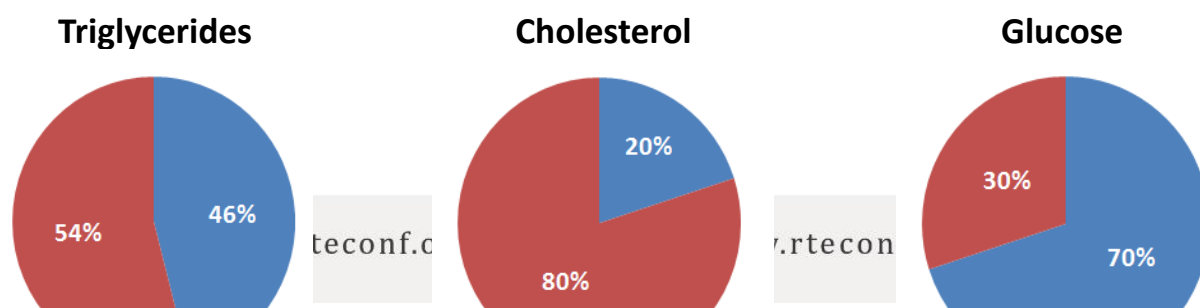
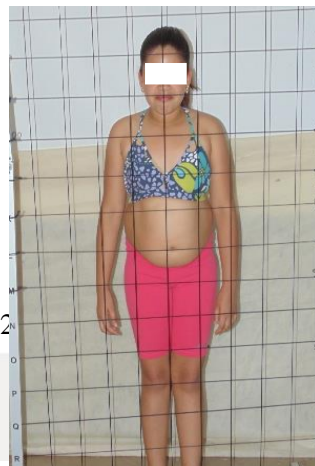
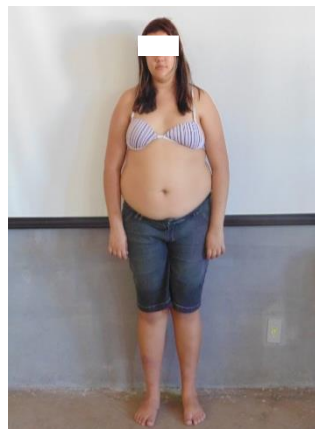


Figure 2: fotos of some students before and after their participation in the pilot





3. Conclusion

All participants in the pilot program had an average body fat reduction of 4.23%. According to the technical opinion issued by the school, there were also positive changes in behavioral and cognitive aspects. Both the results of the pilot program and the logic of the program's own organizational structure, as well as its capacity for dissemination and replication, point to a real opportunity to improve health practices by building sustainable routines capable of moving from curative to preventive processes that impact in the reduction of final costs.

References

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