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Original Article

Physical Education classes in the Empower your Health Project: an analysis from the standpoint of Teachers

Aulas de Educação Física no Projeto Fortaleça sua Saúde: uma análise a partir da perspectiva dos Professores

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Abstract

The objective was to analyze the lesson plans of the Empower your Health Project (Projeto Fortaleça sua Saúde) and their applicability from the teachers' standpoint. A cross-sectional quantitative and qualitative study was conducted as part of a larger project entitled Empower Your Health. Data were collected concurrently with the implementation of the program, in the second half of 2014, at two full-time schools in the city of Fortaleza, Brazil. We analyzed 15 lesson plans applied in four elementary school classes: two 7th grade classes in school A and two 8th grade classes in school B. A semi-structured questionnaire containing seven objective questions was used to analyze aspects regarding the effectiveness of the plans. Major limitations included: students not doing their homework, not using the suggested materials and not applying the proposed activities contained in the lesson plan. It was concluded that the lesson plans exhibited limitations, but these did not compromise the objectives of the project. Thus, all classes demonstrated the potential of the plans suggested by the Empower Your Health Project for promoting a healthier lifestyle.

Keywords

Lesson Plans; Health Promotion; Schoolchildren.

Resumo

Objetivou-se avaliar os planos de aula do Projeto Fortaleça Sua Saúde e sua aplicabilidade na perspectiva dos professores. Trata-se de uma pesquisa de caráter transversal realizada dentro de um projeto maior intitulado: Programa Fortaleça Sua Saúde. Os dados foram coletados concomitantemente à aplicação do Programa, no segundo semestre de 2014, em duas escolas de Tempo Integral (ETI) no município de Fortaleza. Foram analisados 15 planos de aula, aplicados em quatro turmas do ensino fundamental, sendo duas turmas de 7° ano na escola A e duas turmas de 8° ano na escola B. Para coleta dos dados utilizou-se um questionário semiestruturado contendo sete questões objetivas, que analisavam aspectos pertinentes a efetividade dos planos. Dentre as maiores limitações, percebeu-se: a não realização das tarefas de casa, a não utilização dos materiais sugeridos e a não aplicação das atividades propostas no plano de aula pelos professores de educação física. Conclui-se que em alguns aspectos os planos de aula apresentaram limitações, mas, que não interferiram na concretização dos objetivos do projeto. Desta forma todas as aulas demonstraram a potencialidade dos planos sugeridos pelo Projeto Fortaleça Sua Saúde para a promoção de um estilo de vida mais saudável.

Palavras-chave

Planos de aula; Promoção de saúde; Escolares.

Introduction

School-based physical education is an important curricular discipline in popularizing physical activity, individual autonomy and possible improvements in the health status of the school population[1]. Thus, school-based physical education has the significant responsibility of providing services related to physical activity and human development. Physical education in schools contributes to well-being through motor development and physical aptitude, in addition to promoting healthy habits, physical activity and health[2-4].

Since the 1990s there have been an increasing number of studies in the field of health and school-based physical education. Thus, school health promotion

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programs gained theoretical support and began to be offered based on systematized aspects such as: i) The idea that environmental habits are determined early in life; ii) School-based physical education programs could be important in terms of minimizing the future impact of these diseases on young individuals; iii) School-based physical education should be concerned with providing a theoretical and practical framework to enable schoolchildren to incorporate knowledge that promotes exercise after school and in the future, increasing their autonomy for developing physical aptitude and health[5].

Thus, physical education is one of the main intervention pillars for enhancing physical activity levels in the young, reinforcing the need for interventions that encourage an active lifestyle in children and adolescents[6].

However, intervention studies proposing changes in physical education classes, such as increasing the number of classes per week or adapting them to teacher planning, primarily in terms of organizing the lesson plans of these interventions, remain scarce in Brazil. Therefore, knowing what planning is and how to carry it out is important for teachers to clearly understand how they can help in the methodological organization of the course content to be taught in their daily classes, with the aim of educating their students regarding all aspects [7]. Accordingly, the objective of the present study was to assess the lesson plans of the Empower your Health Project (Projeto Fortaleça sua Saúde) and their applicability from the physical education teachers' standpoint.

Methods

The Empower your Health Project can be characterized as a controlled randomized protocol, with the conglomerate (school) as a sampling unit[8], and its objectives include promoting changes in physical education classes. Thus, at least 50% of the time spent in these classes should consist of moderate to vigorous activities.

The project was implemented at six full-time schools in Fortaleza, Ceará state, Brazil, three each in the intervention and control groups. The physical education teachers from the three intervention schools were invited to take part, but one refused to participate.

The two participating schools were similar in terms of location, number of students enrolled and physical structure. Moreover, both had two physical education classes per week in the 7th and 8th grades. In the sample relation it was identified the most gender were male (52.9%) from the school A, and a higher proportion (50.8%) of the students in the ages of 13 years old from the school B.

TABLE 1 – Sample description of the intervention schools.

Variables	Schools			
	A		B	
	n	%	n	%
Sex				
Male	109	52.9	97	47.1
Female	98	51.3	93	48.7
Age				
13	62	42.9	64	50.8
14	52	50.9	54	49.1
15	23	62.1	14	37.9
16	9	45.0	11	55.0
Grade				
7	110	100	------	------
8	------	------	61	100

A manual containing lesson and activity plans and proposals was created and distributed to the teachers. This manual was compiled by members of the project team and organized into a workbook for 7th and 8th graders. To create these workbooks, we consulted Physical Education Project Material+[4], National Curricular Parameters specific to Physical Education, and issues related to an active and healthy lifestyle were consulted[9].

Each workbook consisted of units, subdivided into eight chapters each: (i) physical activity and health (physical and leisure activity, cooperative games, physical activity with parents, active recess); (ii) health-related factors (excessive sedentary time, obesity, diabetes and hypertension, quality of life); (iii) sports (athletics, volleyball, gymnastics, functional training, martial arts); and (iv) popular games (popular dances and games, such as dodge ball, adventure sports).

Each chapter discussed activity proposals with support text and the suggested class plan, including the objective, methods, materials and homework assignment to reinforce the lesson content. The proposed activities could also be adapted to the interests of teachers and students, as well as to structural conditions and school facilities. The materials produced (including posters, texts and daily activities) by the adolescents were examples of complementary extracurricular activities (homework).

Chart 1 shows the description of contents and respective methodology adopted.

CHART 1 – Description of the methodology used in physical education classes and proposed by the Empower your Health project at full-time schools.

Contents	Methodology
Physical activity and free time: fun activities/popular games	Predominantly practical class, aimed at showing the students fun activities and games they could engage in during their free time.
Physical activity and free time: cooperative games	Predominantly practical class, aimed at exposing students to cooperative games that could be played in their free time and encouraging them to research other games for future activities.
Physical activity and free time: cognitive games	Predominantly practical class, aimed at presenting cognitive games for their free time, encouraging students to create their own cognitive (educational) game for the following classes.
Physical activity with parents	Predominantly theoretical class, aimed at encouraging physical activity with parents. Students should engage in at least one physical activity per week with their parents. During the activity. they will take photos to bring to the next class.
Recess: active break	Show the importance of engaging in active games between classes, encouraging students to create active games for this purpose.
Functional training	Practical class aimed at developing the physical aptitude of students through functional activities.
Sedentary lifestyle and behavior	Predominantly theoretical class, differentiating sedentary lifestyle from sedentary behavior, allowing students to identify themselves as sedentary during the proposed activities or as individuals with sedentary behavior.
Obesity	Homework involving researching articles on the problem of obesity in adolescents.
Diabetes and hypertension	Predominantly theoretical class, where the consequences of the aforementioned diseases are illustrated through the proposed activities, underscoring physical activity and healthy nutrition as important tools in the prevention of these disorders.
Postural deviations	Predominantly practical class, informing the students about prevention and the most common causes of postural deviations and using the proposed activities to identify students who engage in routine activities incorrectly and instruct them on how to properly perform these activities.

Continue...

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Contents	Methodology
Healthy eating habits	Preparation of posters at school illustrating the problem of inadequate nutrition in adolescents.
Unhealthy eating habits	Predominantly practical class, with questions and answers regarding the content of earlier classes, poor eating habits and their consequences on the body.
Quality of life	Predominantly theoretical class, using the proposed activities to instruct students on some of the factors that can influence the quality of life of an individual.
Harmful health behavior	Demonstrate, using the proposed activities, harmful behaviors and their implications, as well as determine which of these have been witnessed by the students.
Volleyball	Teaching some of the basic fundamentals of volleyball through predominantly playful activities.

The project also included follow-up by an intern from the Physical Education degree course of the universities involved, who collaborated with activity planning, material acquisition, as well as organization and teaching of classes. Moreover, "gincanas" (festival of dancing, team games such as dodge ball, treasure hunt, theater) were organized in order to combine physical education classes and cultural events at the school (academic week, student's week), encourage the active participation of students and disseminate the activities performed in the physical education classes.

With respect to assessing the lesson plans, a questionnaire was created for teachers to answer after class according to what transpired during the lesson. The instrument asked the following questions: (i) were activities compatible with the age range?; (ii) did students actively take part in the class?; (iii) were the same materials as the lesson plan used?; (iv) were the proposed activities applied in their entirety?; (v) did the students do their homework?; (vi) was the class given in the time estimated?; and (vii) were the objectives of the activities achieved? The teacher had three answer options: YES; NO or PARTIALLY, and could add observations regarding events that occurred during the class. A total of fifteen lesson plans from each school were assessed.

The participation of students was authorized by their parents or legal guardians, who gave their informed consent, as did the teachers. The present study was approved by the National Research Ethics System (protocol no: 17366313.9.0000.0121) and guidelines established in resolutions 466 and 251, of the National Health Council, were adhered to.

Results

Tables 2 and 3 show the limitations reported by the teachers in terms of lesson plans in the Empower your Health Program at schools A and B. The limitations most cited by teachers at both schools were not doing homework, substituting the suggested materials and lack of active participation of students during the classes.

Discussion

It was found that activities were not suitable for the age group in fourteen of the classes in School A. However, it is important to underscore that when activities were prepared, an attempt was made to respect the motor characteristics of the chronological age of 7th and 8th grade students, which is 13 and 14 years old, the phase in which maturational development is in the process of evolving. According

TABLE 2 – Limitations of Empower your Health Project lesson plans from the standpoint of the Physical Education teacher from school A.

CONTENT	School A	
	7A	7C
Physical activity and free time: popular games	Use of materials; Homework; Class duration.	
Physical activity and free time: cognitive games 202	Compatibility with the age group. Use of materials; Application of activities; Homework.	
		Student participation.
Physical activity with parents	Compatibility with the age group; Use of materials; Application of activities; Homework.	
		Student participation.
Recess: active break	Homework.	
		Student participation; Use of materials; Application of activities.
Functional training	Use of materials; Homework.	
		Student participation; Application of activities.
Sedentary lifestyle and sedentary behavior	Use of materials; Homework; Class duration.	
	Compatibility with the age group.	Student participation.
Obesity	Use of materials; Homework; Class duration.	
	Compatibility with the age group.	Student participation.
Diabetes and hypertension	Student participation; Use of materials; Homework.	
	Application of activities.	Compatibility with the age group; Class duration.
Postural deviations	Student participation; Use of materials; Homework.	
	Application of activities.	Compatibility with the age group; Class duration.
Healthy eating habits	Use of materials; Homework.	
	Student participation.	Application of activities.
Unhealthy eating habits	Use of materials; Homework.	
	Student participation.	Application of activities.
Quality of life	Compatibility with the age group; Use of materials; Application of activities; Homework.	
Harmful health behavior	Compatibility with the age group; Use of materials; Application of activities; Homework.	
Volleyball	Compatibility with the age group; Use of materials; Application of activities; Homework.	

TABLE 3 – Limitations of Empower your Health Project lesson plans from the standpoint of the Physical Education teacher from school B.

	SCHOOL B	
CONTENT	8A	8B
Physical activity and free time: popular games	Student participation; Use of materials; Homework	
		Application of activities; Class duration.
Physical activity and free time: cooperative games		Student participation; Use of materials; Application of activities; Homework; Class duration.
Physical activity and free time: cognitive games	Use of materials; Application of activities; Homework.	
		Objective
Physical activity with parents		Use of materials; Application of activities; Homework; Objective
Recess: active break	Use of materials; Application of activities	
Functional training	Homework	
	Use of materials	
Sedentary lifestyle and sedentary behavior	Use of materials; Application of activities; Homework	
Obesity		Homework
Diabetes and hypertension	Use of materials; Homework	
Postural deviations		Homework
Healthy eating habits		Homework
Unhealthy eating habits	Homework	
	Use of materials; Application of activities	
Quality of life	Use of materials; Application of activities; Homework	
Harmful health behavior	Use of materials; Application of activities; Homework	
Volleyball	Use of materials; Homework	

to the teacher, this may have contributed to the unsatisfactory result. In school B, however, as reported by the teacher, all the activities were age-appropriate and satisfactory in all the classes. This suggests that it is very important to be aware of the biopsychic development of students when preparing an activity, since this reflects their childhood motor experiences, social reality and interpersonal relationships.

In thirteen of school A classes and three from school B, the schoolchildren's participation was relatively active, but it was possible to detect that in activities where they had to run, jump or move around a court, many preferred to remain seated, watching the others. It is important to highlight that the project proposed different content and predominantly vigorous activities for physical education

classes. According to the teachers, this may have caused the active participation factor to be unsatisfactory, since many of the students have habits acquired according to their length of time at school. This indicates that it is essential to know the schoolchildren's reality, interests and tastes in order to determine content and activities and make them more appealing[10].

It was observed that the materials suggested by the lesson plans were not used in either school, despite the fact that they were accessible and intended to help in the execution of these activities. However, according to the teachers, they did not use the suggested materials because some of the activities required materials to be made for the class and they were obliged to prepare them. An example is the treasure hunt, where maps and magazine clippings had to be prepared and clues placed around the school grounds. Given that the time required to prepare these materials would affect the teachers' other school activities, they changed or adapted the materials to be used.

It was found that in eighteen school A classes, and twelve from school B, the activities suggested in the lesson plans were not applied in their entirety, that is, they were adapted or changed by the teachers. The difficulties in enacting all the suggested activities coincided, since teachers from both schools reported that the unsatisfactory results were due to the prior preparation of lesson plans, that is, activities were defined with no knowledge of the real situation of the students and the school. However, since an effort was made by the project to devise age-appropriate activities for the schoolchildren, it would be important to prioritize their interests by offering relevant content. Thus, given the concern about knowing the students' interests and tastes, the activities suggested by the lesson plans would have been satisfactory.

There is already a prevalence of certain content taught in physical education classes, primarily those linked to traditional sports, such as soccer, volleyball, basketball and handball. Thus, a new approach is needed to use determinate activities, but one that appeals to the students[11].

Homework was not done in any of the classes at school A or school B. These assignments were prepared by the project to reinforce the classroom lessons. Moreover, it is an opportunity for parents and friends to help the students do the assignments, encouraging them to share the knowledge acquired and apply it in their daily routines. For example, in one of the lessons related to physical activity, the homework assignment consisted of students taking a walk with their parents, during which time they were to take photos to show in the next class. This requires a commitment on the students' part, since they had to involve other people to perform the task.

However, as reported by the teachers, the diverse nature of the activities and the fact that they required the involvement of other individuals in homework assignments contributed to the unsatisfactory results obtained. This is because schoolchildren do not have the habit of doing homework[12,13], much less involving family members or friends.

Ten classes at school A and two at school B were shorter than planned. Although this aspect was taken into account during lesson plan preparation, the teachers reported that the time students spent moving from one class to another and changing clothes for the physical education class had a direct influence on reducing class time.

The objectives were achieved in all school A classes, since, according to the teacher, this was one of the most important factors because it involved teaching material that the students were capable of assimilating. Even when there was a

need to adapt activities or materials suggested by the lesson plans, or if the class was shorter than expected, focus on the objective was maintained. However, objectives were not met in two of the school B classes. The teacher from that school reported that this was due to a sudden change in materials suggested by the class plans in an attempt to adapt activities to the content given. However, the change did not meet expectations and as a result, the activities were not applied in their entirety, causing the teacher to deviate from planned material and compromising the objectives of the class.

It was found that changes were made to all the classes during the intervention, demonstrating the potential of lesson plans from the Empower your Health Project.

It is therefore suggested that the project continue to be used in schools due to the quality of its lesson plans, which made physical education classes more active and provided the latest information on health, nutrition and quality of life to students, school staff, parents and the community.

It is hoped that the results presented and criticisms made in this study will encourage the systematization and publication of information and improve the quality of life of health assessment instruments applied at schools, producing more scientific evidence to help enhance the quality of life and health of the Brazilian school population.

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Authors' contributions

Ângela Maria Barbosa de Casto developed the draft of the study who participated in all stages of data analysis and also in the interpretation and discussion of results. Antonia Edina Teixeira Sousa was responsible for all the bibliographic review and the preparation of all versions of the manuscript. Felipe Rocha Alves participated in the preparation of the draft study, collaborated in data management and in all stages of data analysis, in the discussion of the results and review of all versions of the manuscript .

Evanice Avelino de Souza reviewed the work from conception to the phases of analysis and writing. Mario Renato de Azevedo collaborated in the drafting and critical review of the content to the final version of the article.

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