

**20 - BODY MASS INDEX, PHYSICAL ACTIVITY AND HEALTHY FOOD: TOOLS FOR THE PREVENTION AND REDUCTION OF OBESITY BETWEEN SCHOOLS WITH THE INTERDISCIPLINARITY.**

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**INTRODUCTION**

With the advancement of the years the number of cases of obesity has been increasing significantly, attracting the attention of public health around the world. The national diagnosis of sports in Brazil indicated that 45.9% of Brazilians are sedentary, in this sense and to better substantiate the content needs of the training meetings offered by the Municipal Education Department of Manaus, through the Professional Development Division of the Magisterium, was it suggested that Physical Education teachers conduct a research to know the profile of the students of the Education of Young and Adults of Manaus city, since according to the general panorama of the practices of sport and physical activity presented in the national survey by sample of households of the Institute in the northern region, only 36.6% of people aged 15 years or over practiced any sport or physical activity, so that the hypothesis that the students of Youth and Adult Education are the most with regard to physical inactivity and, consequently, to noncommunicable chronic diseases, such as obesity. From then on came the idea of this work, considering the profile of the students as well as the pedagogical practice already developed at Themístocles Pinheiro Gadelha School, as a teacher of the Physical Education discipline of the students.

The number of cases of students with overweight and obesity is a factor that calls attention to measures that are adopted with the purpose of offering students health and quality of life. These issues were being matured in the discussion process inside and outside the school environment.

Excess fat is one of the biggest health problems in many countries, especially industrialized countries. Obesity is a worldwide problem of the World Health Organization, because it reaches a large number of people and predisposes the body to various types of diseases and premature death. (NAHAS, 2010).

The school is the ideal place for the development of programs that aim at the promotion of health, because when developed in the school the programs begin to reach students, parents teachers and community in general. This space for school life becomes relevant for changes in eating habits and encouragement for the practice of physical activity, since we are participating in the construction of the individual's knowledge, stimulating him to assume healthier attitudes to live today and in the future. In this sense, the Conselho Federal de Educação Física (2014) affirms that Physical Education as a compulsory curricular component within schools constitutes a social representation of physical and sports activities, having a relevant meaning in our society, highlighting the Declaration of Madrid of 1991, also adopted by the European Physical Education Association, as well as the document of the World Forum on Physical Activity and Sport, which emphasize that there is no education without Physical Education and how much investment in Physical Education in schools positively impacts public health and capacity learn from the students.

Our intention is to perform the anthropometry test, by measuring the weight (kg) and height (m) to calculate the Body Mass Index, in order to have a concrete diagnosis of the students, since this is the most common method to diagnose if the individual is overweight, with the exception of athletes.

According to Santos and Maia (2009). The World Health Organization developed a classification with Body Mass Index to determine if the person was overweight (Body Mass Index = 25 to 29 kg / m<sup>2</sup>) or obesity (Body Mass Index > 30 kg / m<sup>2</sup>). Therefore, Body Mass Index is used to gauge whether the individual's weight is normal or above normal. The Body Mass Index is calculated by the weight of the subject divided by the square of its height (Body Mass Index = Weight / Height<sup>2</sup>). After the anthropometry test, and verified using the classification table used by the World Health Organization as mentioned above, as an indicator of obesity levels, 65% of the students in the class were overweight considered normal, which measures to be taken to prevent and reduce the rates of obesity in the class.

This was the starting point to initiate a project aimed at stimulating and making students aware of the importance of acquiring and maintaining healthy habits aiming at the prevention and reduction of obesity rates, which consequently lead to other chronic noncommunicable diseases such as: diabetes, high blood pressure and heart disease. The development of this project is in line with Law 9.394/1996, the Law of Guidelines and Bases of Education in Brazil, which establishes, among other things, as the teacher's responsibility to participate in the elaboration of the proposal pedagogical as well as, watch over the student's integral learning, highlighting the need to develop educational actions appropriate to the reality, interests, living conditions and work of this student.

Regular physical activity combined with healthy eating are important ways to prevent and reduce obesity and other diseases, resulting in quality of life and well-being. Goulart (2008) also states that promoting physical activity and healthy eating are more effective ways of improving health to the point of minimizing risk factors such as obesity, cardiovascular disease and diabetes.

**METHODOLOGY**

At the beginning the students were informed of the project's purposes and the importance of their participation in order to achieve the objectives of the project. The implementation of the project demanded theoretical and methodological resources, which enabled the development of dynamic, pleasant and participative classes.

In order to introduce the themes "Body Mass Index, Eating Habits and Physical Activity", expositive and dialogic classes were carried out, in partnership with nutritionist, complemented by videos and slides with the aid of sound box, projector and notebook, other activities were carried out in room by means of dynamics, work in group, oral exposition and practical activities, aiming to arouse the curiosity, motivation and incentive of the participation of all.

Other activities were introduced during the course of the project with the aid of a variety of materials such as: anthropometry and balance, to carry out the anthropometry test, cardboards, magazines and posters to make posters about the 10 countries with the highest obesity rates in the world, size population, capital, geographical area, location, food pyramid, healthy foods, unhealthy foods and other food-related topics.

The project crossed the walls of the school through physical activities developed by the community, through activity

such as: hum, walking and running, enabling teacher and students to work. In order to do so, it was essential to stimulate activities in groups, the encouragement and participation of all in the actions developed inside and outside the classroom. The work was done with all classes that make up the 4th Stage of the Youth and Adult Education, the night shift. The activities took place between April and October of this year, at the Municipal School Themistocles Pinheiro Gadelha, located at Rua Cupiúba, neighborhood: Jorge Teixeira 1st stage, east zone of the city of Manaus / AM. The activities complied with the schedule proposed by the teacher, obeying the calendar of activities organized by the school management.

### DISCUSSION AND RESULTS

In this item, we present the results of everything we have discussed and what has been worked on in each moment of our actions. We also emphasize how the contents worked are interlaced in each moment in an interdisciplinary way. It is important to make a brief explanation of the activities that would be developed, the theme of the lesson and the objectives to be achieved. Next, we emphasize the importance of working on the following themes: Body Mass Index, eating habits and physical activity, with the aim of making young and adult education students aware of the adoption of healthy habits aimed at preventing and reducing obesity rates and between other diseases. When analyzing that 65% of the students who participated in the anthropometry test were, according to the classification table, overweight and obese. Several activities were developed, with the teacher as mediator throughout the process.

Students learned what Body Mass Index is, what it is used for, how to calculate Body Mass Index, and how to use the table to rank the level that was found after measuring weight (kg) and height (m). The strategy of teaching the same to calculate the Body Mass Index itself allows the student to follow his progress until reaching the level considered normal weight. This theme enabled the development of the activity to be carried out in an interdisciplinary way using a content of Physical Education, such as Body Mass Index and content of Mathematics through the mathematical operations necessary to calculate this index. According to Zabala (2002), interdisciplinarity would be the interaction between two or more disciplines, ranging from the simple communication of ideas to the reciprocal integration of fundamental concepts and to the theory of knowledge, methodology and research data.

Another measure adopted was the participation of a teacher trained in Natural Sciences and Nutrition, to discuss the importance of healthy eating, encompassing other relevant subjects such as: the importance of healthy foods containing carbohydrate, proteins and vitamins, the importance of a healthy diet in the prevention and reduction of obesity rates and among others relevant topics such as: the importance of healthy foods containing carbohydrate, proteins and vitamins, the importance of healthy eating in preventing and reducing obesity rates and other issues. In addressing food issues we also work on matters related to the discipline of science.

Eating healthy is important to ensure good health and prevent diseases such as obesity, malnutrition and also to decrease the risk of infections, and ensure good physical and mental development. Healthy eating is not just made with fruits and vegetables, but rather made with a combination of foods with: carbohydrates, vitamins, minerals, proteins, milk and dairy, sugars and fats. It is necessary to vary the foods of each group and then receive the benefits. (DUTRA, 2007).

In the following class a seminar was held on the ten countries with the highest rates of obesity in the world, in this seminar the students worked on Geography when discussing about population size, capital, location, territorial area and typical dishes of each country. This activity also contemplated the Portuguese Language through orality. We used Almeida, et al (2005) to explain that the Physical Education teacher does not only deal with the body, but also with the social interactions lived by the students, he can "considerably increase his contribution to both the student and to the school where he teaches, which makes the Physical Education class an environment conducive to observing and working the issue of interdisciplinarity in the school context. "

The content of the physical activity was approached by means of a lecture where within this subject the aspects worked were: the importance of the physical activity, the damages that the absence of the physical activity entails for the health and types of physical activities. The students performed practical activities crossing the walls of the school in the open space used by the community where they attended zumba class, running and walking. An unprecedented experience, unlike what they are accustomed to in everyday life within the school. These measures help students to socialize with schoolmates as well as the community and prevent and reduce obesity rates, leading students to a healthy old age. Regular physical exercise is recognized as the way to prevent and combat the ills associated with aging. In this way we must emphasize that well-applied physical activity can induce an adult into permanent practice, becoming, in the future, a healthy senior citizen. (DUTRA, 2007).

### CONCLUSION

The project was developed with a focus on quality of life, prioritizing health as well as physical, mental and social well-being through activities interlaced with interdisciplinarity in a dynamic and pleasurable way. There is a commitment to develop with Education of Young and Adults students, E.M Themistocles Pinheiro Gadelha, awareness-raising activities to adopt healthy habits aimed at preventing and reducing obesity rates and to become healthy older people in the future. The construction of this work developed through actions in an interdisciplinary perspective enabled students to visualize Physical Education with a new look, enabling them to work contents in a connection with other disciplines or different knowledge, aiming at achieving unique goals. It was possible to work on contents of the pedagogical curricular proposal involving different curricular components beyond the classroom space.

The interdisciplinarity does not invalidate the specificity of each discipline, even because one can not speak in interdisciplinarity without disciplines. It should not be confused with polyvalence and thus does not negate the knowledge around an interdisciplinary project (Barros, et al, 2010).

There is no doubt that the learning of the curricular proposal can make a significant leap, if teachers and students take ownership of this teaching practice, since the results obtained in this project were positive for both the students and the teacher involved, which was evident in theory and practice.

Barbosa et al. (2011), when discussing Quality Education, affirms that this will only be possible if we propose as a possible alternative the development of interdisciplinary projects. For this same author, it would facilitate the understanding of the themes in their different curricular components and consequently, we would perceive through collective thinking and action a new way of experiencing the school.

The work has had positive effects for both the teacher and the students, as well as for society in general, because the students have had the possibility of experiencing an innovative experience, different from that experience in everyday life.

### BODY MASS INDEX, PHYSICAL ACTIVITY AND HEALTHY FOOD: TOOLS FOR THE PREVENTION AND

**REDUCTION OF OBESITY BETWEEN SCHOOLS WITH THE INTERDISCIPLINARITY.****SUMMARY**

This article presents innovative experiences and experiences developed in the school context, interlaced in an interdisciplinary perspective involving Physical Education and other curricular components. It was sought to make students aware through discussions, lectures, observations, researches and experiences about the importance of changing habits to a better quality of life in an interdisciplinary way. The methodological bias for the elaboration of this practice was through innumerable activities developed as lectures, gymnastics, seminars, practical outdoor activities and among others, working the contents on Body Mass Index, Healthy Eating and Physical Activity, with the students of Youth and Adult Education, Themistocles Pinheiro Gadelha Municipal School, located in the eastern part of the city of Manaus / AM. The school was the locus of all the development of the activities and the teacher was the mediator of the whole process. The coexistence with the students during the whole procedure of the actions revealed positive factors regarding the teaching - learning process. It has been realized that working with lectures, poster making, group activities, outdoor practical classes and gymnastics is one of the ways for the teacher to develop interesting, relaxed and dynamic classes, aligned with group work and cooperation. Considering that the institution in which this work was developed, it needs a careful look at issues involving sedentarism and obesity. For this reason, there is a need for the teacher to reinvent himself so that the goal of the work can be achieved, appropriating one of the most precious assets within Education, to creativity.

**Key - words:** Physical Education, Interdisciplinarity, quality of life.

**INDICE DE MASSE CORPORELLE, ACTIVITÉ PHYSIQUE ET ALIMENT SAIN: OUTILS POUR LA PRÉVENTION ET LA RÉDUCTION DE L'OBÉSITÉ ENTRE LES ÉCOLES AVEC L'INTERDISCIPLINARITÉ.****SOMMAIRE**

Cet article présente des expériences novatrices et livings développées dans les écoles, enlacés dans une perspective interdisciplinaire impliquant l'éducation physique et d'autres composantes scolaires, a cherché à éduquer les élèves par le biais de discussions, notes de cours, la recherche et les expériences sur l'importance de l'évolution des habitudes de une meilleure qualité de vie d'une manière interdisciplinaire. Le biais méthodologique pour le développement de cette pratique a été à travers de nombreuses activités telles que des conférences, des concours, des séminaires, des activités de plein air et pratiques entre autres, travailler le contenu indice de masse corporelle, une saine alimentation et l'activité physique, avec les étudiants jeunesse et éducation des adultes, l'école municipale Themistocles Pinheiro Gadelha, situé sur le côté est de la ville de Manaus / AM. L'école est le lieu de toutes les activités de développement et de l'enseignant était le médiateur du processus. La coexistence avec les étudiants pendant toute la procédure des actions a révélé des facteurs positifs concernant le processus d'enseignement-apprentissage. Il a été remarqué que le travail avec des conférences, préparation des affiches, des activités de groupe, des cours pratiques de plein air et des compétitions est l'une des façons pour l'enseignant de développer des enseignements intéressants, détendu et dynamique, aligné sur le travail d'équipe et la coopération. Considérant que l'institution dans laquelle il a été développé ce travail manque un regard réfléchi sur des questions concernant l'inactivité physique et l'obésité. Pour cette raison, il est nécessaire que l'enseignant se réinvente afin que l'objectif du travail puisse être atteint, en s'appropriant l'un des atouts les plus précieux de l'éducation, à savoir la créativité.

**Mots - clés:** éducation physique, interdisciplinarité, qualité de vie.

**INDICE DE MASA CORPORAL, ACTIVIDAD FÍSICA Y ALIMENTACIÓN SALUDABLE: HERRAMIENTAS PARA LA PREVENCIÓN Y REDUCCIÓN DE LA OBESIDAD ENTRE ESCUELAS CON LA INTERDISCIPLINARIDAD.****RESUMEN**

Este artículo presenta experiencias y vivencias innovadoras desarrolladas en el ámbito escolar, entrelazadas en una perspectiva interdisciplinaria que involucra a la Educación Física y otros componentes curriculares, Se buscó concientizar a los alumnos a través de discusiones, charlas, observaciones, investigaciones y vivencias sobre la importancia del cambio de hábitos para una mejor calidad de vida de manera interdisciplinaria. El sesgo metodológico para la elaboración de esta práctica fue por medio de innumerables actividades desarrolladas como charlas, gincanas, seminarios, actividades prácticas al aire libre y entre otras, trabajando los contenidos sobre Índice de Masa Corporal, Alimentación Saludable y Actividad Física, con los alumnos de la escuela Educación de Jóvenes y Adultos, de la Escuela Municipal Themistocles Pinheiro Gadelha, ubicado en la zona este de la ciudad de Manaus / AM. La escuela fue el locus de todo el desarrollo de las actividades y el profesor fue el mediador de todo el proceso. La convivencia con los alumnos durante todo el procedimiento de las acciones reveló factores positivos en lo que se refiere al proceso de enseñanza - aprendizaje. Se percibió que trabajar con charlas, confección de carteles, actividades en grupo, clases prácticas al aire libre y gincanas es uno de los caminos para el profesor desarrollar clases interesantes, relajadas y dinámicas, alineadas al trabajo en grupo y cooperación. Teniendo en cuenta que la institución en la que se desarrolló este trabajo, carece de una mirada atenta a cuestiones que involucran el sedentarismo y la obesidad. Por esa razón, existe la necesidad de que el profesor se reinventa para que el objetivo del trabajo pueda ser alcanzado, apropiando de uno de los bienes más preciosos dentro de la Educación, a la creatividad.

**Palabras claves:** Educación Física, Interdisciplinariedad, calidad de vida.

**IMC, ATIVIDADE FÍSICA E ALIMENTAÇÃO SAUDÁVEL: FERRAMENTAS NORTEADORAS NA PREVENÇÃO E REDUÇÃO DA OBESIDADE ESCOLAR NA EJA EM UMA PERSPECTIVA INTERDISCIPLINAR****RESUMO**

Este artigo apresenta experiências e vivências inovadoras desenvolvidas no âmbito escolar, entrelaçadas numa perspectiva interdisciplinar envolvendo a Educação Física e outros componentes curriculares, Buscou-se conscientizar os alunos através de discussões, palestra, observações, pesquisas e vivências sobre a importância da mudança de hábitos para uma melhor qualidade de vida de maneira interdisciplinar. O viés metodológico para a elaboração desta prática foi por meio de inúmeras atividades desenvolvidas como palestras, gincanas, seminários, atividades práticas ao ar livre e entre outras, trabalhando os conteúdos sobre Índice de Massa Corporal, Alimentação Saudável e Atividade Física, com os alunos da Educação de Jovens e Adultos – EJA, da Escola Municipal Themistocles Pinheiro Gadelha, localizado na Zona Leste da cidade de Manaus/AM. A escola foi o locus de todo o desenvolvimento das atividades e o professor foi o mediador de todo o processo. A convivência com os alunos durante todo o procedimento das ações revelou fatores positivos no que tange o processo ensino – aprendizagem. Percebeu-se que trabalhar com palestras, confecção de cartazes, atividades em grupo, aulas práticas ao ar livre e gincanas é um dos caminhos para o professor desenvolver aulas interessantes, descontraídas e dinâmica, alinhadas ao trabalho em grupo e cooperação. Tendo em vista que a instituição no qual foi desenvolvido este trabalho, carece de um olhar atencioso para questões que envolvem o sedentarismo e obesidade. Por essa razão, existe a necessidade de o professor se reinventar para que o objetivo do trabalho possa ser alcançado, apropriando de um dos bens mais preciosos dentro da Educação, à criatividade.

**Palavras – chaves:** Educação Física, Interdisciplinaridade, qualidade de vida.