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## THE IMPLEMENTATION OF THE SCHOOL COMMUNITY GARDEN: PROFILE OF STUDENTS IN THE CONSUMPTION OF VEGETABLES OF THE SCHOOL "INACIO KOURY GABRIEL NETO"

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### ABSTRACT

*The objective of this work was to implement a community garden and assess the profile of the students in relation to the consumption of vegetables, through the application of questionnaires and, in this way, to characterize patterns of students' consumption of vegetables. The vegetable garden was implemented as an interdisciplinary activity between teachers and students, in order to sensitize students*

*to the importance of daily consumption of vegetables. There were individual interviews totaling 112 students interviewed. The research instruments used were a questionnaire, containing closed questions, addressing the following characteristics: gender; age group; family income; vegetables usually consumed; and frequency of consumption. The data were analyzed in percentages, making it possible to study the influence of some socioeconomic factors on food consumption. It was observed that most of the interviewees consume vegetables less than 3 times a week. It was also verified that, as family income increases, there is also an increase in the consumption of vegetables. Lettuce, tomatoes and green scents are the vegetables that most students consume. The main reason that drives the consumption of vegetables is related to health.*

**KEY WORDS:** *Healthy Eating,*

### INTRODUCTION

The garden inserted in the school environment can be a living laboratory that enables the development of several pedagogical activities in environmental education, uniting theory and practice in a contextualized way, assisting in the process of teaching-learning and narrowing relations through the promotion of collective work and cooperated among the social agents involved (VIANA et al.,2008). It is important to bring to the

school community the contribution and importance of the garden in the school as a central theme for food reeducation, evidencing that it should not only be destined for food production, but rather be worked as a pedagogical process that inserts students in the contextualization of citizenship, being an instrument of great relevance in the process of community inclusion in school activities. (MAGALHÃES, 2003). In Brazil, bad food is not the exclusive problem of poor or rich, people of all social classes feed poorly. The problems

arising from inadequate diet are malnutrition, anemia, obesity and chronic non-communicable diseases, affecting both children and young people and adults. Therefore, food education from an early age is fundamental (HÜLSE, 2006).

The school is arguably the best agent to promote food education, since it is in childhood and adolescence that the attitudes and eating practices, difficult to modify in adulthood (TURANO, 1990), are fixed. According to Pereira et al. (2011), it is through the garden that students will be able to learn clearly the

teachings, the composition of the plant, the losses that can cause the deficiency of some vitamins and proteins in the diet. In addition, the pedagogical work with the garden also allows students to be taught the correct way to sanitize food.

Viecheneski et al. (2012) ensure that, with the garden, various themes can be approached. In this process, the teacher assumes his role as mediator, relating the scientific knowledge to the students' experience, so that the practice becomes even more concrete through the dialogical relationship between the subjects of learning, as well as the articulation Between the contents covered in school and the day to day of the students.

The garden is recognized as a learning space, in which interpersonal exchanges present a horizontal and dialogical perspective among those involved, in which everyone can contribute with their knowledge and experiences in the construction of the project. From this perspective, the garden also revealed a space to produce care, understood from the active participation of the subjects and from the production of sociability, rescuing and constructing bonds of care with oneself, with the other and with nature (RABBIT and BÓGUS, 2016).

Although food is served in educational institutions, this is rarely seen as teaching content. Food education should be taken to the school environment, where the learner can and should reinforce the adoption of good eating habits. This dynamism of the act of eating nowadays can be thought from the perspective of the transformations that food has suffered due to the social, economic and cultural changes of contemporary society (FONSECA et al., 2011).

It is during childhood that the food can be vastly explored, because at this stage curiosity is extremely keen, prejudices have not yet been acquired and where the possibility of forming a broader critical sense arises. For this reason, early childhood education plays an important role in the development of good eating habits of children. Food education must be well defined in the pedagogical project of the educational institution, aiming to familiarize children with food (MAGALHÃES and GAZOLA, 2002).

The knowledge and skills that allow people to select and consume healthy foods, in a safe and appropriate way, greatly contribute to health promotion. However, it is not enough to just defend the idea of access to food simply, but also that they are of quality, respect cultural diversity and that are social, economical and environmentally sustainable (MDS, 2005).

Serrano (2003) states that the great challenge of the mismatch between theory and practice, that the transversal themes have faced can be broken from the moment when the projects are simple, objective, adjusted to the experience of everyday home-school-community of the student, developed interdisciplinarily, with a theoretical foundation on the part of the teachers and the disruption with the cartesian educational model, giving space for questioning and reflection, which are themselves of these themes.

The implementation and joint management of school gardens allow the reflection of the school community on environmental issues, nutritional quality, health, quality of life and contact of children with ecological relations in the natural environment of the school itself. Thus, the gardens are constituted in a pedagogical instrument that enables the increase in the consumption of fruits and vegetables, the construction of healthy eating habits, the redemption of regional and local habits and the reduction of costs related to school meals (MUNIZ and CARVALHO, 2007).

Given this problem, the school garden becomes an element capable of developing themes involving food education, because in addition to connecting theoretical concepts to the practical assisting the teaching and learning process, it constitutes a strategy capable of assisting the development of content in an interdisciplinary manner, distributed in subjects worked by transversal themes. Furthermore, it inserts the community effectively in the school political-pedagogical project and breaks the paradigm of a cartesian education, seeking the concept of citizenship. There is a lot of talk in the process of building citizenship in school environments, but it is not worked beyond the walls of the school. Therefore, the project is justified as a form of insertion of the Federal Institute of Education, Science and technology in the implementation of the school garden as a food and environmental educational principle.

## MATERIAL AND METHODS

The study took place at the state school InacioKoury Gabriel Neto, located in the city ofCastanhal – Pará state, from February 2 until December 3, 2018. The work was developed with high school students, as an extra activity, by teachers of the disciplines of physics, chemistry and biology.

The implementation of the project was divided into three steps: Step 1- Raising students' awareness about food reeducation and succinct approach on the benefits of healthy eating; Stage 2- Implementation of the Community School garden, together with the students involved and community; Step 3- Monitoring of the planted garden beds.

Initially, pedagogical actions were taken to implement the project, being divided into: presentation of the project to the school community for discussion and elaboration of multidisciplinary didactic planning actions, with emphasis on the involvement of students and Professors, contemplating goals of greater effectiveness of the teaching-learning process, arousing students to the socio-environmental and food importance of the cultivation of vegetable. And then defining the physical space and construction of the garden.

The garden was installed inside the physical space of recreation available at the school. In this physical structure a central area composed of rectangularplant beds was built.

The construction of the gardens was initiated in December, where the coriander (*Coriandrum sativum* L.), the chives (*Allium schoenoprasum* L.), lettuce (*Lactuca sativa* L.), cabbage (*Brassica oleracea* L.) and other nutritionally important vegetables were cultivated in the definitive site. The students participated in the stages of soil preparation and planting of seedlings. Recycling activities were also performed with the students, who brought recyclable material, such as Pet bottles to be placed around the site and to produce vertical vegetable gardens. The students were monitored about the importance of the consumption of healthy foods, and the importance of consumption of organic vegetables with the use ofvermicompost, thus, the fertilization based on Earthworm Hummus was performed. The irrigations were carried out with water from the school supply system, by means of manual irrigationhoses, daily, in the morning and late afternoon by the students as their daily activity. The harvested vegetables were made available for school meals.

The follow-up was done by teachers/researchers, scholarship students and the school community. The possible problems in the conduction of the vegetable beds were discussed with the teachers and students of the school as a way of integrating the knowledge of the school community, thus deciding strategies together. Therefore, they served as a living laboratory of learning, because there was content that was contextualized at the time of the implantation of the beds and irrigation systems used toirrigate the vegetables.

Subsequently, a structured question was applied to 112 students, in order to verify the frequency and diversity of vegetables consumption of the school students.

## RESULTS AND DISCUSSION

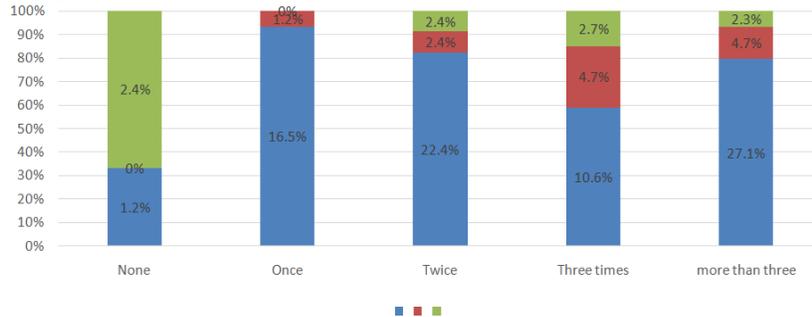
The results of the questionnaires were obtained by applying the questionnaires to the students participating in the project, totaling 112 students. Of the interviewees, 67% were women, mainly aged between 15 and 21 years. The number of students from rural zonal was 67%, while the rural area was 37%.

Regarding the frequency of consumption of vegetables, 23.2% of respondents said they consume once a week, 23.2% says they consume twice a week, and 32% of respondents reported consumingvegetables more than 3 times a week. While only 3.2% claims not to consume vegetables at all during the week. According to data presented by Queiroz et al (2015), the increase in the consumption of vegetables has a positive correlation with family income.

In Figure 1, it is possible to observe that, for the consumption of vegetables, this correlation is quite significant, since 27.1% of the interviewees who claimed to consume more than 3 times in the week have more than 3 minimum wages of family income, as compared to those who have less than 1 minimum wage income only 2.3% have the same consumption, some possibility are that for these people the reduced income precludes the consumption of vegetables to the detriment of other needs

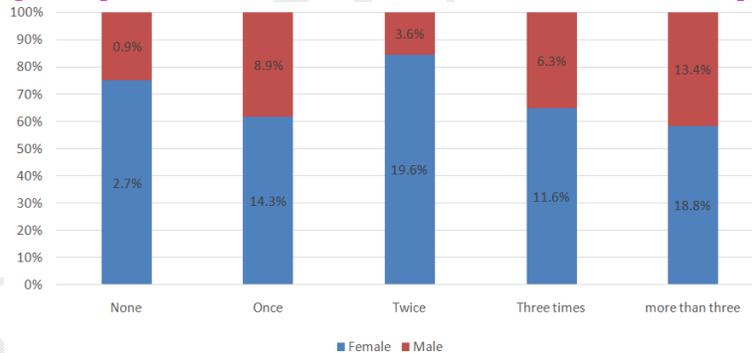
and Information on how important the daily consumption of vegetables for the health. Of those who claimed to consume vegetables between two and three times a week, 33% have more than 3 minimum wages of family monthly income. Analyzing these data, it is possible to affirm that the higher the family income, the more vegetables are consumed. This can be linked to the greater economic power of these people who invest more in a healthy diet during their lifetime, how much income is associated to having a healthy diet.

**Figure 1-Percentage composition of the income in the frequency of consumption of vegetables.**



In Figure 2. It is possible to observe that the question of gender was automatically reflected in a higher consumption of vegetables. More than 50% of respondents who said they consume vegetables between two times, three times and more than three times are women, while men are only 23.3%. Of those who do not consume once a week and those who consume only once a week most are women also (2.7% and 14.3% of respondents, respectively). These results demonstrate that sex interferes directly in the consumption of vegetables, and women are the greatest consumers.

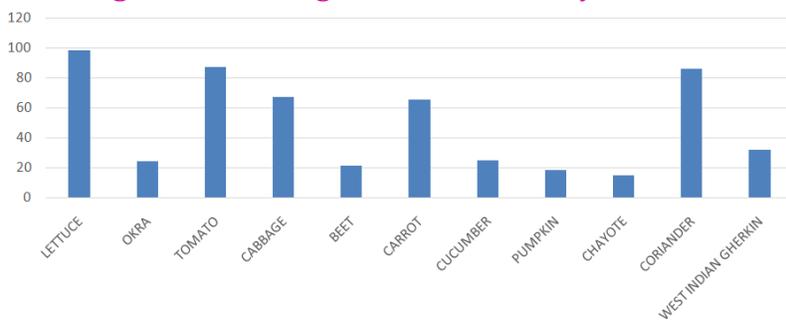
**Figure 2-Percentage composition of the sex in the frequency of the consumption of vegetables.**



In Figure 3 It is interesting to note that lettuce, tomato, coriander and cabbage are the most consumed vegetables daily by the interviewees, thus are foods that represent the habits in consumption or preference of families. It can be attributed the high consumption of these vegetables to factors such as the relatively low cost, easy preparation and being of high availability to the consumer, that is, it is found in several marketing points.

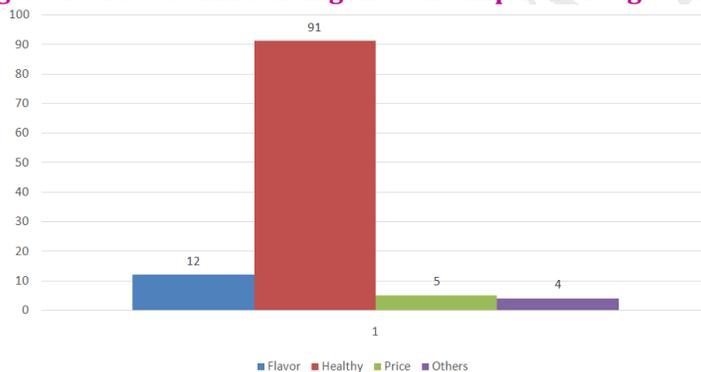
Analyzing the foods less consumed as beet, okra, chayote and west indiangerkin, among the interviewees are the vegetables that least enter the diet of the interview, being due to the lack of consumption or the price and the availability slightly lower Compared to the most consumed, as a result the mix of vegetables that the family of students interviewed are consumed is very limited.

**Figure 3 - Main vegetables consumed by students.**



In Figure 1, it was proposed that the family income affect the consumption of vegetables, because the one who knows the importance of the consumption of vegetables, consumes a greater amount of vegetables during the week. In Figure 4 1 of the main reasons for consuming vegetables is precisely because it is known that it is a healthy food, and 81% consider this factor, the remaining 10%, 4.6% and 4.4% value the flavor, price and other reasons, respectively.

**Figure 4 - Factors influencing the consumption of vegetables.**



Regarding the cultivation of vegetables at home, 85% responded that they did not grow and 25% responded that they cultivate some type of vegetables at home. Most students who have responded that do not cultivate any type of vegetables at home can be associated with the type of housing of urban center regions and the lack of stimuli to a healthier diet. Corroborating the studies of Coelho andBógus(2016) that defines the school space as a possibility in the change of food habit.

**CONCLUSION**

In the present study, it was found that most students interviewed do not consume vegetables more than 3 times a week. It was also verified that, as the family income increases, there is a significant increase in the consumption of vegetables, while the gender of the women represent the majority of the consumers of vegetables. The lettuce, tomato, green smell and cabbage are the most consumed vegetables daily by the interviewees, and that the main reason that drives the consumption of vegetables is related to health and healthy eating.

Thus, the implementation of a vegetable garden in school communities is an alternative to increase the frequency and consumption of a wider variety of vegetables, in addition to awakening students to the benefits of the consumption of vegetables.

Regarding the role of the garden as a strategy for food and nutrition education, there is a direct relationship with the role of the school in the production of knowledge, with the activities that emerge from the formality of the classroom that enable educational practices that, besides associating theory and practice, allow to work more comprehensive aspects of knowledge. The practice of producing

their own food awakens in students the feeling that they are contributing to improving life and citizenship.

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