

# Recovery of healthy and sustainable practices through experiences of agroecology and urban agriculture

## Resgate de práticas saudáveis e sustentáveis a partir de vivências com a agroecologia e agricultura urbana

Silvana Maria Ribeiro<sup>1</sup>  
Jessica Vaz Franco<sup>1</sup>  
Mariana Tarricone Garcia<sup>1</sup>  
Cláudia Maria Bógus<sup>2</sup>  
Helena Akemi Wada Watanabe<sup>2</sup>

<sup>1</sup> Universidade de São Paulo, Faculdade de Saúde Pública, Departamento de Política, Gestão e Saúde, Programa de Pós-graduação em Saúde Pública. São Paulo-SP, Brasil.

<sup>2</sup> Universidade de São Paulo, Faculdade de Saúde Pública, Departamento de Política, Gestão e Saúde. São Paulo-SP, Brasil.

Financial support: CNPq nº 153903/2011-2 e FAPESP nº 2011/23.187-3

Correspondence  
Silvana Maria Ribeiro  
E-mail: silmaribe@gmail.com

### Abstract

The article discusses the recovery of practices focused on food, health and the environment, resulting from involvement in agroecological urban agriculture activities, within Health Promotion and Food and Nutrition Security. Four workshops were organized to systematize the experiences of the agroecological urban agriculture project known as “ColhendoSustentabilidade” (Harvesting Sustainability), in 2012 and 2013. The systematization of experiences is a participatory qualitative research methodology that enables a reflexive reconstruction of a collective experience. Twenty-four people participated in this process in four workshops. Data were collected, through one of the workshops that aimed to identify the impact of the project on the daily life of all those involved. They were organized and analyzed within the following categories related to Health Promotion: reinforcement of community action, empowerment, social participation and skills development. The findings revealed that contact with land in garden activities contributes to cultural recovery and construction of new knowledge; for the gradual change of eating habits, since it emphasizes the relationship between food and health and the environment, in addition to providing moments of social interaction involving food. The authors concluded that the mixture of traditional and scientific knowledge, built through participatory and dialogic pedagogical strategies, allows the exchange of experiences about different aspects of food, and suggests that initiatives such as the one analyzed in this

study can contribute to cultural recovery, empowerment and the development of sustainable and health promoting practices.

**Keywords:** Healthy Diet. Agriculture. Agroecology.

## Resumo

O artigo se propõe a discutir o resgate de práticas voltadas a alimentação, saúde e meio ambiente, decorrentes de envolvimento em atividades de agricultura urbana agroecológica, sob o enfoque da Promoção da Saúde e da Segurança Alimentar e Nutricional. Foram realizadas quatro oficinas de sistematização de experiências do projeto de agricultura urbana agroecológica “ColhendoSustentabilidade”, nos anos de 2012 e 2013. A sistematização de experiências é uma metodologia de pesquisa qualitativa de cunho participativo que possibilita a reconstrução reflexiva de uma experiência coletiva. Participaram deste processo 24 pessoas em quatro oficinas. Os dados coletados, através de uma das oficinas que teve por objetivo identificar o impacto do projeto na vida cotidiana de todos os envolvidos, foram organizados e analisados dentro das seguintes categorias vinculadas à Promoção da Saúde: reforço da ação comunitária, empoderamento, participação social e desenvolvimento de habilidades. Os achados revelaram que o contato com a terra em atividades de horta contribui para o resgate cultural de saberes; para a construção de novos conhecimentos; para a mudança gradativa de hábitos alimentares, pois ressalta a relação alimentação-saúde-meio ambiente, além de proporcionar momentos de convívio social envolvendo a alimentação. Conclui-se que a mescla de conhecimentos tradicionais e científicos, trabalhados através de estratégias pedagógicas participativas e dialógicas, permite a troca de experiências sob diversos aspectos da alimentação e sugere que iniciativas como a analisada no presente estudo podem contribuir para o resgate cultural, o empoderamento e o desenvolvimento de práticas sustentáveis e promotoras de saúde.

**Palavras-chave:** Práticas Alimentares Saudáveis. Agricultura. Agroecologia.

## Introduction

The interest in the relation between food, environment and its impacts on the health of individuals has grown among researchers and professionals in the public health sector.

Adequate and health eating is defined, according to CONSEA,<sup>1</sup> as:

The realization of a basic human right, with the guarantee of permanent and regular access, in a socially fair manner, to an eating practice adequate to the biological and social aspects of the individuals, according to the cycle of life and special eating needs, based on the local tradition referential. It must attend the principles of variety, balance, moderation, pleasure (flavor), dimensions of gender and ethnicity and the forms of sustainable environmental production, free from physical, chemical and biological contaminants and from organisms that are genetically modified.

Currently, however, the consumption of food is influenced by the pace of urban life, in which the scarcity of time contributes to harmful eating behavior in the population, through the decrease in the consumption of traditional foods and increase of consumption of ultra-processed ones and quick meals which are more available and easier to access than the first ones.<sup>1-4</sup> This situation is due to the main characteristics of the world's food system: the predominance of a pattern of intensive and mechanized agricultural production, with chemical products utilization in high scale; the processing of the foods, in order to extend the durability and reduce steps (pre-preparation etc.), which can implicate in a loss of original characteristics and qualities of the food; the growing standardization of eating habits, followed by the diffusion of products from certain cultures or regions; and the extension of the weight of international commerce in the food supply of countries, even as a way of draining the productive surplus of richer countries. In other words, there is a reflexivity between the conditions of the forms of production and the hegemonic standard in food consumption.<sup>5</sup>

These new eating habits characteristic of urban life are some of the main risk factors for overweight, diabetes and other chronic non-communicable diseases,<sup>6</sup> due to the high energetic density and low amount of nutrients and fibers.<sup>4</sup>

In Brazil, the access to adequate food is considered a basic citizenship right,<sup>7</sup> and the assurance of Food and Nutrition Security, which consists in the achievement of this right, is a duty of the State and also society's responsibility through, production and availability of healthy and safe foods, among other aspects, valuing sufficiency, stability, autonomy and sustainability, and also in synergy with the Health Promotion under socioeconomic, health and nutritional focus.<sup>8</sup>

Regarding the environment, the quality of life of human beings is closely connected to their habitats due to the dynamic interaction among natural and social elements. In this sense, it is

not possible to approach matters related to health without considering the environmental and sustainable aspects, considering the following dimensions: environmental, economic, social, cultural and political.<sup>9</sup>

The concepts that Food and Nutrition Security and Health Promotion share are present in different policies and strategies about food and nutrition, aiming to promote healthy eating.<sup>10</sup> They are based on the Reference Landmark of Food and Nutrition Education for Public Policies, which aims to promote a common field of reflection and orientation of the practice, in the set of initiatives of Food and Nutrition Education that contemplates the several sectors linked to the process of foods production, distribution, supply and consumption. The following principles are adopted: I) Social, environmental and economic sustainability; II) Approach of the food system in its entirety; III) Appreciation of the local food culture and respect to the diversity of opinions and perspectives, considering the legitimacy of the knowledge from different natures; IV) Food as reference: appreciation of culinary as an emancipatory practice; V) Promotion of self-care and autonomy; VI) Education as a permanent process that generates autonomy and the active and informed participation of individuals; VII) Diversity in the practice scenarios; VIII) Intersectoral collaboration; and IX) Planning, evaluation and monitoring of actions.<sup>11</sup>

Another practice that is being shaped due to the evolution of the urban space in the contemporary world is the urban and peri-urban agriculture, which presents itself as an alternative to the modern or conventional agriculture, prevailing pattern until this day.

Urban and peri-urban agriculture gained strength in Brazil in the 80's, while social movements were rising in Brazil in the midst of agrarian contradictions: agriculture modernization, lands ownership concentration, rural exodus and violence in the countryside.<sup>12</sup> Due to its interdisciplinary characteristic, urban and peri-urban agriculture also dialogue with the proposals from the Food and Nutrition Security and Health Promotion. It is based in health promoting food practices that also respects cultural diversity and are environmental, cultural, economic and socially sustainable.<sup>13</sup> Particularly in Health Promotion, it also contributes to changes in society offering sustainable environments, developing community participation and individual and collective empowerment.

Agroecology, which can be the basis of urban and peri-urban agriculture, interpenetrates several dimensions of the society, because it is inserted in a systemic process that transforms the hegemonic mechanisms of social exploitation and valuing an agriculture that is socially fairer, economically viable and ecologically appropriate. This science, which is dynamic, recovers and respects the popular knowledge of traditional peoples, especially of farmers, and values the intrinsic wisdom in the sustainable relation between humans and nature, besides promoting gender equality and autonomy of the agricultural producer focusing on a more solidary economy, also aggregating scientific knowledge.<sup>14</sup>

When developed in consonance with agroecology principles, urban and peri-urban agriculture contribute to the access to fresh and healthy foods, provide self-support to more vulnerable urban populations and becomes an instrument to meet food shortage<sup>15</sup> and help in knowledge (re) construction about the rural life, like the cultivation practices they used to have in farms and in home open spaces.<sup>16</sup>

The participation in these activities related to food, already rooted in the Brazilian culture, results in a rich sociocultural patrimony, because the act of eating involves much more than just doing it to satiate hunger; it is part of a system in which communication occurs with reverence to historical roots, tradition, as well as to what constitutes new habits.<sup>17</sup>

Traditional foods from each culture can be recovered and valued from the discovery of food diversity provided by the urban and peri-urban agricultural practices, reinforcing nutrition and health, besides strengthening cultural characteristics of the group. Many individuals are disconnected from the cycle of life of these foods and have lost the ability to cultivate and prepare them.<sup>18</sup>

This article proposes to discuss the recovery of practices related to food, health and environment due to the involvement in agroecological urban agriculture activities, from the standpoint of the Health Promotion and Food and Nutrition Security.

## Methodology

This article is the result of a master's research that evaluated the impacts of the participation in the project of agroecological urban agriculture known as "Sustentabilidade" (Harvesting Sustainability) in the lives of the participants.

This project was developed between 2008 and 2011 in the city of Embu das Artes, metropolitan region of São Paulo, through a partnership between federal and municipal governments and the community, by means of a non-governmental organization that implemented community gardens in different public spaces of the city.

## Scenario

Embu das Artes was chosen for the research due to the diversity of urban agriculture and agroecology activities that were developed in the city during the time of investigation. These activities were conducted within the principles of agroecology and popular education, involving several sectors from local administration and the community.

Situated in the metropolitan region of São Paulo, Embu das Artes is known as a tourist city, although it is also recognized as a dormitory town since many of its inhabitants work at the capital of the state of São Paulo or in nearby cities, returning to their homes only for sleep.

The current population of Embu das Artes is of 258,917 inhabitants in an area of approximately 70,39km<sup>2</sup>, with demographic density of 3.590,41 inhabitants/km<sup>2</sup>.<sup>19</sup>

The city has 59% of its area under the Law of Watershed Protection and is part of the reserves of the Atlantic Forest Biosphere and the Green Belt Biosphere of the city of São Paulo with 22% of its territory declared as Area of Environmental Protection, the “AEP Embu-Verde” (15,7km<sup>2</sup> of the city), and 11,9km<sup>2</sup> (17,5%) of Areas of Permanent Protection, although much has already been altered and irregularly occupied.<sup>20</sup>

Besides the biodiversity of the region, the city also has two distinct realities: the first one, located on the west area, shows a city full of fauna and flora, art and culture; the second one, passing the Régis Bittencourt highway, which crosses the city, presents a deep socioenvironmental change, marked by chaotic expansion and occupation in risky areas.

## Data collection

Four workshops of experiences’ systematization were carried out between the 2012 and 2013. The first three were on June 16<sup>th</sup> and 30<sup>th</sup> and July 14<sup>th</sup> of 2012. The fourth was on March 23<sup>rd</sup>, 2013.

All the workshops had the support of a consultant specialized in group mediation, denominated “facilitator”, which contributed to data collection (reports, drawings, panels) during the four meetings.

The systematization of experiences is a qualitative methodology of participative research which, through different techniques and approaches, enables the reflective reconstruction of a collective experience.<sup>21,22</sup>

The use of this research methodology centered its efforts on obtaining a more refined understanding of the project “Colhendo Sustentabilidade” (Harvesting Sustainability), aiming to improve its actions, enabling knowledge sharing, conducting a theoretical reflection that arose from this experience and contributing with the dissemination of knowledge produced collectively by all those involved.

The systematic character of the experiences’ systematization methodology provides the recovery of a vivid experience shared by the subjects of the research serving as basis for knowledge building, and exchange of experiences, besides producing learning and process’ qualification; moreover it allows the analysis of the importance of the effects of this participation on people and the diffusion of results.<sup>23</sup>

The goals of each workshop were:

- Workshop 1: Historical recovery of the project with those involved in “ColhendoSustentabilidade” (Harvesting Sustainability);
- Workshop 2: Identification of the impact of the project on everyone’s daily life under the optic of the Health Promotion;
- Workshop 3: Recognition of the Strengths, Opportunities, Weaknesses and Threats of “ColhendoSustentabilidade” (Harvesting Sustainability) project
- Workshop 4: Results validation with subjects.

For this article, only the second workshop was considered, which had the goal of identifying “the impact of the project ‘ColhendoSustentabilidade’ (Harvesting Sustainability) in the daily life of all those involved.” And, according to table 1, this workshop counted with the participation of 24 people – men and women: representatives of the technical team of the project (execution of the project); representatives of the staff of the town hall (technicians in public service, such as: health agents, nurses, social assistants, etc.); and representatives from the participants of the project (urban farmers participants in different community gardens in the city).

**Table 1.** Participants of the workshops of systematization according to gender and role played in the project. Embu das Artes-SP, 2012.

Participants	Men	Women	Total
Urban Farmers	6	10	16
Staff	0	4	4
Technicians	3	1	4
Total	9	15	24

The criterion established for the selection of individuals for the research was related, exclusively, to the time of participation/involvement in the project “ColhendoSustentabilidade” (Harvesting Sustainability), corresponding to a minimum period of six months. This criterion was met by all those who participated in the second workshop, which means the 24 participants of the activity. The age range went from 28 to 77 years old.

For the development of the investigation, ethical principles that guide research with human beings were considered, according to Resolution CNS n. 196/96 and its complements, with the approval of the Committee of Ethics in Research from the Faculdade de Saúde Pública da Universidade de São Paulo (Public Health School of the University of São Paulo) n. 2.323, February 27<sup>th</sup>, 2012.

## Data Analysis

The aim was to describe the history of the project “Colhendo Sustentabilidade” (Harvesting Sustainability) and organize the data according to analytical categories of the theoretical references of the Health Promotion: sustainability, participation, intersectoral, community action, development of skills and environments favorable to health and the elaboration of healthy public policies; and from the Food and Nutrition Security: access to adequate and healthy food. Thus, the speeches collected through recordings and notetaking during the systematization workshops were classified and organized to compose a data bank for analysis and synthesis. Thematic content analysis was made, considering recurrent and frequently expressed opinions, dissent and consensus and some excerpts, related to the themes studied, were selected to be presented here.

For this, a fluctuating and horizontal reading was made, which, according to Minayo,<sup>24</sup> occurs when the researchers have intense and direct contact with the material from the field chosen, adopting the following steps: reading, categorization and analysis.

At first, exhaustive readings of each speeches and document were made, taking notes of the first impressions, searching for the internal cohesion of the information. After these, the empirical categories were built to be confronted and related later with the theoretical analytic categories preestablished as the goals of the investigation. Next, a transversal reading from each subgroup and group in its entirety was made, separating the texts in themes (empiric or theoretical variables), categories, units of meaning, gathering the similar parts and establishing its connections. After this stage, there was the “downsizing”, the refining of the classification of the themes, grouping them around central categories, connecting it in a “unifying logic”.<sup>24</sup>

## Results and Discussion

Aiming to deepen the dimension of the Health Promotion and Food and Nutrition Security during the making of the systematization of experiences workshop, the participants were invited to rescue their memories, turning to the construction of an image of their lives before and after participating in the project “Colhendo Sustentabilidade” (Harvesting Sustainability), through the following reflection: “What changed in my health and in the way I eat?”. It was possible to analyze



some of the speech returned to the exchange of knowledge from the social rescue related to eating and to the health of the participants.

The collective construction provided by the systematization of experiences encourages the reconstruction of what is being systematized through the memorial recovery of the facts in a reflective manner. It also allows the analysis of past actions for future perspectives, be it in the improvement of something that already exists or in the creation of something new.

Popular education stimulates the autonomy and organization in a group of individuals, interrelates well with the systematization of experiences, as it helps in the appreciation of the cultural recovery of individuals and in the development of each one's potentialities and creativity. It is also considered as an education with redeeming perspective because it is committed to effective and transforming changes in power relations that perpetuate the existence of capitalism, it promotes a horizontal relation between educators and students and the real possibility of emancipation while history's subjects.<sup>25</sup>

Popular education represents, according to Pedrosa & Bonetti,<sup>26</sup> an

adequate pedagogical approach to the work of raising awareness of subjects about justice and social rights through the organization of groups in the construction of autonomy projects and from a critical reading of reality, building shared knowledge, having as a political-ideological reference the Freirean constructions of freedom and emancipation.

Jara-Holliday<sup>22</sup> says that, in a tangle of people and experiences, everything becomes complex, multidimensional and multidirectional due to the occurrence of objective and subjective factors. Thus, there are not simply actions and things that succeed or have succeeded; there are individuals who think, feel and live; who make these actions happen in determined contexts and situations and that, by doing so, build new contexts, situations and relations.

From the analysis the following categories connected to Health Promotion emerged: i) reinforcement of the community action on the dimensions: environment, sociability, citizenship; ii) empowerment in the dimensions: development of potential, power, autonomy; iii) social participation; and iv) development of skills in the dimensions: environmental, food and nutrition security, health and social.

The reinforcement of the community action, which is one of the fields of action of the Health Promotion,<sup>27,28</sup> was identified in the following dimensions: environment, sociability, citizenship, which most of the times were followed by the category empowerment.

Some authors highlight that the reinforcement of community action also involves the increment of power of the communities in the fixation of priorities, decision making and definition and implementation of strategies to reach a better level of health, having as a result the empowerment of the community.<sup>27,28</sup>

In the testimony transcribed below, an urban farmer mentioned the need to pass along the knowledges to younger people, showing a concern over future generations and reinforcing the community action:

Things that we need were being forgotten and they must be rescued, we need to, as it was said here, to pass it along to this future generation, these kids, that you don't go to a supermarket gondola and everything's already there, there's a story before this product gets there. (Urban farmer, 63 years old).

Other farmers mentioned how they started implementing new gardens, acting as multipliers of the agroecological urban agriculture:

We even have a lot of pictures at the day care center, me and him teaching little children, teenagers... teaching how to plant... and we taught the small children to plant, they all came to plant, little kids this height... in São Marcos[neighborhood] ... there at [Jardim] Santa Clara, at the school (Urban farmer, 64 years old).

The next speeches showed knowledge sharing and the appreciation of local communities potential:

[...] ultimately it generated changes in our lives, not just a change in relation to that group, it affected several dimensions from our lives, which made us even more multipliers... we share this knowledge with people [...] we want to teach, exchange, share what we feel and that was very nice, our relationship with the multipliers. (Educator-Technician from the project "Colhendo Sustentabilidade [Harvesting Sustainability], 31 years old).

The appreciation of the community integration was mentioned in the next testimonials:

So, what I thought was the most important thing throughout this process was to stimulate environmental conservation and production of healthy food, rescuing the popular knowledge and the story of people's lives and showing how valuable is this knowledge, exchanging the most diverse experiences with the participants [...] (Educator-Technician, 32 years old).

Empowerment, another category identified, was connected to other dimensions, such as development of potentialities; increase of power, of autonomy of the individuals and social groups

in the interpersonal and institutional relations. It became a process that offers possibilities to people to self-determine their own lives, effecting their insertion in social and political processes from their integration in the community and articulation with other organizations.<sup>29</sup>

The community, once strengthened, contributes to the exchange of knowledge between generations, besides the multiplication of knowledge acquired and the application of positive practices in the communities, as seen during several moments of the execution of the project “ColhendoSustentabilidade” (Harvesting Sustainability). Mixing popular and scientific knowledge, activities such as group conversations, participative planning and evaluations, elaboration of collective drawings, ludic activities and cooperative games can be developed as pedagogical strategies.<sup>30</sup>

During the activities performed in the project “ColhendoSustentabilidade” (Harvesting Sustainability), the technicians prioritized the recovery of knowledge from the participants, improving individual and collective capacities from the union between traditional knowledge originated in the community and scientific ones, brought by the multidisciplinary technical team, creating a new type of knowledge, richer and more recognized by all those involved.

In practical activities, the work with land was the main instrument for knowledge construction. The moments of productive systems’ implementation and maintenance were not only for planting of species, but also for observation, reflection and group learning in relation to themselves and to nature, as well as forming the cultural identities of groups.

Culture, understood as preservation and recovery of historical memory, values, habits, religious postures, folklore, also refers to the level of creation of symbols and values that characterize the essence of a society, an era or of a certain story. Culture, in this view, means human and social production, which occurs through the activation of the potentialities and creativity of each society, of each group, in relation to the development of itself and in the relationship with the environment.<sup>31</sup>

This really recovers what our ancestors already practiced, our grandparents, our parents, in the past you didn’t hear anything about pesticides [...] how were things planted? It was all natural, right? So today, we know that this doesn’t happen, right? (Urban farmer, 57 years old).

For Demo,<sup>31</sup> culture is “the imprint of man on the earth”, especially in symbolic terms, that is, the capacity of creation and unfolding of potentialities and also interaction with surrounding situations. In this sense, culture is related to each one’s capacity to build their own history; thus, the rescue of popular knowledge, or simply the cultural recovery done by people, because it is something that already exists in an individual level, is reinforced by the collective.

Culture can also be thought from the perspective of an acknowledged legacy and through the transmission of habits and traditions from one generation to the next. However, its acceptance does not necessarily happen in a passive manner. For Guazelli & Pereira<sup>32</sup>

There is a process of reception, of cultural appropriation of objects, used in different ways. Reality is not received as a file and frozen in a memory in stagnant spaces. Social realities are always built and not simply passed on. This allows the possibility to revisit old beliefs and mores and, in some dimension, of questioning them.

In the case of agricultural practices, the recovery of old practices becomes even more intense if we think that a great part of the people involved in the project “Colhendo Sustentabilidade” (Harvesting Sustainability) have rural origins.

The recovery of roots... many people that came from rural areas and that for a long time didn't have the opportunity to work with land, through the community gardens, these people have had the opportunity to work the land again and do what they liked. (Nursing auxiliary, female, 45 years old).

These sustainable practices experienced in the past by people who were born or raised in rural areas are not forgotten. At most, they are kept inside memories and when one goes through a recovery process, they are accessed and come out, which can be seen as follows:

My father always worked with gardens, he always planted, always tried to cultivate organics for us to eat [...] so when I had the opportunity to get closer to the land, of having more contact with plants, that was very good for me [...] (Urban farmer, 36 years old).

Social participation, one of the principles of Health Promotion, is considered a process in which many social layers take part in the production, management and use of the goods and services of a certain society.<sup>33</sup> This was a category identified in several moments of the project “Colhendo Sustentabilidade” (Harvesting Sustainability). Regarding the cultural rescue, we highlight the joint effort practices in the project.

During the implementation of the agroecological productive systems, one of the strategies used by the technical team was the creation of “community task force as a way of potentializing the agricultural production, integrating people to the project and rescuing solidary practices forgotten with time, also resulting in the mobilization of people and reinforcing actions surrounding the themes related to agroecological urban agriculture.

Working on the land contributed to the construction of new knowledges; the moments of implementation and maintenance of the productive systems were used to put into practice the agroecological knowledges.

The community task force practices are characteristic of the family work mode, especially of “country people”, and it generally occurs when the family cannot handle a certain task and needs to count on the help of acquaintances. This type of work establishes social bonds between members of the neighborhood.<sup>34</sup>

From the creation of the community task force, especially for the implementation of the Agroforestry System, there was a process of integration between the participants from the several activity groups of the project “ColhendoSustentabilidade” (Harvesting Sustainability), besides the approximation of several visitors to take part in this kind of activity, many originated from the urban area of São Paulo, to experience a “day at the countryside”.

Another category that was identified was the development of skills, which occurs through strategies of education in health, programs of formation and update in the direction of empowerment or conquest of autonomy. In the individual level, there is also the process of acquisition of knowledge and extension of the political consciousness itself.<sup>27</sup>

The testimonies collected showed the development of skills in the environmental dimension, signaling a new look of the participants to the environment, and a collective desire to contribute for the preservation of nature. They incorporate the sustainable practices used in the project “ColhendoSustentabilidade” (Harvesting Sustainability) also in their homes and communities, besides new agricultural practices, in the dimensions of Food and Nutrition Security and health under different angles, and the concern with the sociability of the groups, involving the social dimension.

I began working in the community garden, that's when I took an initiative [awareness] about the environment [...], I began to like it, take part in the agroecology, the environment, the agroforestry. (Urban farmer, 57 years old).

The dimension of Food and Nutrition Security, even if unconsciously, stood out in some testimonials, being compared to eating habits of the past and the present and the influence of the project “ColhendoSustentabilidade” (Harvesting Sustainability) in the eating habits of the participants. Some mentioned that they doubled their knowledge, expanding their consciousness about healthy eating.

The change of eating habits happened gradually, with more consumption of fruits and vegetables, besides discovery of new, but “old”, edible species, such as: *capicoba*, *cariru*, *serralha*, *taioba* or, as they are currently known, unconventional food plants. The consumption of unconventional food plants may be an alternative for a better food diversification. They are present in regions where there is still exertion of influence of traditional foods, but they are still unknown for a significant part of the population.<sup>35</sup>

According to the participants, the fact that people took the harvested foods to their houses contributed to this change and helped in the decrease of expenses with food, besides the reduction in consumption of industrialized items.

You say “wow, today we have obesity in our country”, in the past we didn’t see that, people used to eat healthier and today, I try to consume only organics, because alright, sometimes people don’t have easy access to a farm, a place where they can plant and then consume, but today I try to consume only organic food. (Urban farmer, 57 years old).

Consuming foods harvested by the individuals themselves in urban and peri-urban agriculture activities can be considered a positive strategy of food and nutritional education, helping in eating habits change and enabling the interest in a diverse consumption of healthy foods.<sup>36</sup>

Changes related to the consumption of foods and the economic issues were identified in testimonies such as from this farmer, when referring to changes in eating habits because of her self-production:

She said she practically does not buy vegetables at the supermarket because she has a small garden inside her house and she practically only eats what she harvests from it. Besides, she also donates [the production that is not consumed]. (Representative of one of the subgroups about urban agriculture, 71 years old).

The relation food-health-environment was identified in many testimonials like the ones transcribed below:

We feel like eating what we plant because we see the plant growing, we know that that is food, and this changes what you feel like eating, it makes you want to take better care of your health, eat healthier things (Representative of one of the subgroups about urban agriculture, 68 years old).

The changes in participants’ eating habits happened through gradual “awakening” regarding a more natural and balanced diet, with the introduction of more fruits and vegetables in it, besides the discovery of the unconventional food plants already mentioned.

As a result of the changes in the eating habits, there was also diversification in the type of food that they buy. People who took home the foods harvested in gardens stopped spending money in supermarkets. Many participants also reduced the consumption of industrialized foods. And there were those who exchanged healthier recipes between them:

[...] So you start to see a lot of people wanting to know, receive, I don’t know, exchange healthier recipes, who want to start a garden in their homes, who start looking for organic food, so there was this learning, I think, in the city as a whole [...] (Educator-Technician of the project “Colhendo Sustentabilidade [Harvesting Sustainability], 40 years old).

Although health education was not explicitly a focus of the thematic content, the technical team brought topics directly related to health, aiming to change the way of thinking and acting of the participants.

For Machado et al.,<sup>37</sup> health education through many types of communication give people knowledge and aptitudes, enabling choices regarding health, awakening a critical consciousness, recognizing the factors that influence health and encouraging them to do something to change. Critic and constructive, health education contributes to the identification of problems so that people can choose their options aiming an improvement in the quality of life and control over the environment and over the factors that interfere in their own health and in that of the society.<sup>38</sup>

The relation of the participants with food, both the variety produced and harvested for self-consumption as well as the celebrations through collective meals showed the degree of importance of the theme Food and Nutrition Security for all of those involved in the process, signaling once again the strengthening of the community action and the continuous process of development of skills – in this case, in relation to the food theme.

Besides the incentive for a healthier eating practice, among the participants it became common moments of socialization and celebration involving food, like collective meals, breakfasts and lunches, which happened both in the gardens as well as in the residence of some of the participants.

Carneiro et al.<sup>39</sup> argued that people who have more social life live longer and have better health than those with less social life. The same authors noted that a person who has an effective interpersonal conduct can develop social networks of support that operate as one of the most relevant factors for the recovery and prevention of health problems such as mental ones, guaranteeing a better quality of life.

In this sense, interpersonal meetings are fundamental, because it is then that the subject faces and assimilates what is desirable and undesirable experienced in the social interaction. Besides, it is through interpersonal relations that the individual uses, recreates, perpetuates a set of signs and symbols that identify not only belonging, but also the roles played within this group. Everything is connected to action, to individual and collective conduct “since it creates a relation of meaning”.<sup>32</sup>

## Final Considerations

We conclude that the use of pedagogic strategies according to a perspective of popular education and dialogic and horizontal principles in practices of agroecological urban agriculture enables the merge of different types of knowledge, traditional knowledge, originated from the community and from science, brought by the multidisciplinary team. Gradually new knowledge is produced, together

with an exchange of experiences under several aspects of food, contributing to the promotion of a cultural rescue in the perspective of Food and Nutrition Security and Health Promotion.

Regarding methodological aspects, the application of the systematization of experiences, supported by the processes of popular education, can be considered a strategy that effectively allowed the identification of the principles and fields of action of the Health Promotion.

The implementation of community gardens or activities with the community enabled an opening of new paths with a focus on health, food and environment. Those involved recognized themselves as part of this environment, socially taking part in it, improving their self-esteem, becoming social protagonists, living a citizen participation and developing personal and collective abilities. They recognized and valued a food knowledge that, several times, was kept hidden or was forgotten in time. Besides, they strengthened the Food and Nutrition Security by promoting changes in eating habits, accessing more varied and sustainable foods, exchanging healthy recipes and discovering new edible species, like the unconventional food plants.

At last, by recognizing the value of the agroecological urban agriculture as an activity that promotes health, it is suggested the need to promote the increase of initiatives such as the project “ColhendoSustentabilidade” (Harvesting Sustainability) in the cities. Thus, the possibility of more people participating in urban and peri-urban activities and agroecology would be expanded. This would contribute to the cultural rescue of healthy and sustainable practices through the interface with Health Promotion and Food and Nutrition Security.

## Contributors

Ribeiro SM participated in the draft of the study, conception, analysis and interpretation of data, writing of the article and its final version; Franco JV participated in the analysis and interpretation of data and writing of the article; Garcia MT participated in the conception of data and writing of the article; Bógus CM participated in the draft of the study, conception, writing and final review of the article; Watanabe HAW participated in the draft of the study, conception, analysis and interpretation of data, writing and final review of the article.

Conflict of interests: The authors declare there are no conflict of interests.

## References

1. Consea Nacional. GT. Alimentação Adequada e Saudável. Relatório Final [Internet]. mar. 2007. [acesso em: 28 set. 2017]. Disponível em: <http://www4.planalto.gov.br/consea/eventos/plenarias/documentos/2007/relatorio-final-marco-2007-02.2007/@@download/file/documento-final-alimentacao-adequada-e-saudavel.pdf>



2. Levy-Costa RB, Sichieri R, Monteiro CA. Disponibilidade domiciliar de alimentos no Brasil: distribuição e evolução (1974-2003). *Rev Saúde Pública* 2005; 39(4):530-540.
3. Monteiro CA, Cannon G. The impact of transnational “Big Food” companies on the south: a view from Brazil. *Plos Med.* 2012; 9(7):e1001252.
4. Levy RB, Claro RM, Mondini L, Sichieri R, Monteiro CA. Regional and socioeconomic distribution of household food availability in Brazil, in 2008-2009. *Rev Saúde Pública* 2012; 46(1):1-9.
5. Maluf RS, Reis MC. Segurança alimentar e nutricional na perspectiva sistêmica. In: Rocha C, Burlandy L, Magalhães R. *Segurança alimentar e nutricional: perspectivas, aprendizados e desafios para as políticas públicas.* Rio de Janeiro: Editora Fiocruz; 2013.
6. World Health Organization. *Diet, nutrition and the prevention of chronic diseases.* Geneva: WHO; 2003. WHO Technical Report Series, 916.
7. Brasil. Presidência da República. Emenda Constitucional nº 64, de 4 de fevereiro de 2010. Altera o art. 6º da Constituição Federal, para introduzir a alimentação como direito social. *Diário Oficial da União* 4 fev. 2010.
8. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. *Política Nacional de Alimentação e Nutrição.* Brasília: Ministério da Saúde; 2012.
9. Marques EP, Pereira IMTB. Saúde e meio ambiente no cotidiano do ensino público fundamental: o que pensam os professores. In: Pelicioni MCF, Mialhe FL. *Educação e Promoção da Saúde: teoria e prática.* São Paulo: Santos; 2012.
10. Santos LAS. Educação alimentar e nutricional no contexto da promoção de práticas alimentares saudáveis. *Rev Nutr.* 2005; 18(5):681-692.
11. Brasil. Ministério do Desenvolvimento Social e Combate à Fome. *Marco de referência de educação alimentar e nutricional para as políticas públicas.* Brasília: Secretaria Nacional de Segurança Alimentar e Nutricional; 2012.
12. Telles L. A agricultura urbana agroecológica: tecendo a história da ação da rede em Belo Horizonte (MG). In: Theodoro SH, Duarte LG, Viana JN, organizadores. *Agroecologia: um novo caminho para extensão rural sustentável.* Rio de Janeiro: Garamond; 2009.
13. Brasil. Conselho Nacional de Segurança Alimentar e Nutricional. *Avanços e desafios na implementação do direito humano à alimentação adequada.* Brasília: Consea; 2009.
14. Aquino AM, Monteiro D. Agricultura urbana. In: Aquino AM, Assis RL. *Agroecologia: princípios e técnicas para uma agricultura orgânica sustentável.* Brasília: Embrapa; 2005. p. 185-198.
15. Machado AT, Machado CT. *Agricultura urbana.* Planaltina, DF: Embrapa; 2002.
16. Costa HSM, Almeida DAO. Agricultura urbana: possibilidades de uma práxis espacial? *Cadernos de Estudos Culturais* 2012; 4(8):1-21.
17. Braga V. Cultura Alimentar: contribuições da antropologia da alimentação. *Saúde Rev.* 2004; 6(13):37-44.
18. Jackson E. Connecting people to the source of their food changing the way we think about food to improve health. *N C Med J.* 2015; 76(1):54-56.

19. Embu das Artes. Prefeitura. População [Internet]. 2017. [acesso em: 02 fev. 2017]. Disponível em: <http://cidadeembudasartes.sp.gov.br/embu/portal/pagina/ver/205>
20. Embu das Artes. Prefeitura. Atlas Socioambiental de Embu. Embu das Artes; 2008. 96 p.
21. Jara-Holliday O. Para sistematizar experiências. Brasília: Ministério do Meio Ambiente; 2006.
22. Jara-Holliday O. A sistematização de experiências: prática e teoria para outros mundos possíveis. Brasília: Contag; 2012.
23. Moyses SJ, Moyses ST. Promoção da saúde em contextos locais. In: Pelicioni MCF, Mialhe FL. Educação e promoção da saúde: teoria e prática. São Paulo: Santos; 2012.
24. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 11. ed. São Paulo: Hucitec; 2008.
25. Figueiredo DA. História da educação popular: uma leitura crítica. In: Assumpção R. organizador. Educação popular na perspectiva Freiriana. São Paulo: Editora e Livraria Instituto Paulo Freire; 2009.
26. Pedrosa JIS, Bonetti OP. Educação popular em saúde como política pública: limites e possibilidades. In: Pelicioni MCF, Mialhe FL. Educação e promoção da saúde: teoria e prática. São Paulo: Santos; 2012. p. 347-365.
27. Buss PM. Uma introdução ao conceito de saúde. In: Czeresnia D, Freitas CM, organizadores. Promoção da saúde: conceitos, reflexões e tendências. Rio de Janeiro: Fiocruz; 2003. p.15-38.
28. Westphal MF. Promoção da saúde e prevenção de doenças. In: Campos GW, et al. Tratado de saúde coletiva. São Paulo: Hucitec; Rio de Janeiro: Fiocruz; 2006. p. 635-667.
29. Wendhausen ALP, Barbosa TM, Borba MC. Empoderamento e recursos para a participação em Conselhos Gestores. Saúde e Sociedade 2006; 15(3):131-144.
30. Cavalcante BC. Agroecologia e agricultura urbana: contribuições e desafios a partir do estudo do projeto Colhendo Sustentabilidade em Embu das Artes [Trabalho de Conclusão de Curso]. São Paulo. Universidade de São Paulo, Faculdade de Filosofia, Letras e Ciências Humanas; 2011.
31. Demo P. Participação é conquista: noções de política social participativa. São Paulo: Cortez; 1993.
32. Guazelli ME, Pereira IMTB. Considerações teóricas e uma aproximação às estratégias metodológicas em educação em saúde com base na promoção. In: Pelicioni MCF, Mialhe FL. Educação e promoção da saúde: teoria e prática. São Paulo: Santos; 2012. p. 99-113.
33. Bógus CM, Westphal MF. Participação social e cidadania em movimentos por cidades saudáveis. In: Fernandes JCA, Mendes R. Promoção da Saúde e gestão local. São Paulo. Aderaldo & Rothschild: Cepedoc; 2007.
34. Jackson LC. A tradição esquecida. Estudo sobre a sociologia de Antonio Candido. Revista Brasileira de Ciências Sociais 2001; 16(47):127-140.
35. Kinupp VF; Barros IBID. Riqueza de plantas alimentícias não-convencionais na região metropolitana de Porto Alegre, Rio Grande do Sul. Revista Brasileira de Biociências 2007; 5(1):63-65.

36. Costa CGA, Garcia MT, Ribeiro SM, Salandini MFS, Bógus CM. Hortas comunitárias como atividade promotora de saúde: uma experiência em Unidades Básicas de Saúde. *Ciênc Saúde Coletiva* 2015; 20(10):3099-3110.
37. Machado MFAS, Vieira NFC, Silva RM. Compreensão das mudanças comportamentais do usuário no Programa Saúde da Família por meio da participação habilitadora. *Ciênc Saúde Coletiva* 2010; 15(4):2133-2143.
38. Pelicioni MCF, Pelicioni AF, Toledo RF. A educação e a comunicação para a promoção da saúde. In: Rocha AA, Cesar CLG. *Saúde pública: bases conceituais*. São Paulo: Atheneu; 2008.
39. Carneiro RS, Falcone E, Clark C, Prette ZD, Prette AD. Qualidade de vida, apoio social e depressão em idosos: relação com habilidades sociais. *Rev Psicologia: Reflexão e Crítica* 2007; 20(2):229-237.

Received: May 10, 2017

Reviewed: September 26, 2016

Accepted: October 16, 2017

