

# Living conditions: work, health and food of waste pickers in the metropolitan region of Curitiba, Brazil

Condições de vida: trabalho, saúde e alimentação de catadores de material reciclável na região metropolitana de Curitiba

Julieanne Reid Arcain<sup>1</sup>  
Marcia Oliveira Lopes<sup>2</sup>  
Sílvia do Amaral Rigon<sup>3</sup>  
Milene Zanoni da Silva<sup>2</sup>

<sup>1</sup> Universidade Federal do Paraná, Programa Multiprofissional em Saúde da Família. Curitiba, PR, Brasil.

<sup>2</sup> Universidade Federal do Paraná. Departamento de Saúde Comunitária. Curitiba, PR, Brasil.

<sup>3</sup> Universidade Federal do Paraná, Departamento de Nutrição. Curitiba, PR, Brasil.

#### Correspondence

Julieanne Reid Arcain  
E-mail: julie\_arcain@hotmail.com

## Abstract

*Introduction:* Recyclable waste pickers, despite being essential professionals for the socio-environmental development of municipalities, form a socially vulnerable group. Thus, for health promotion actions, it is necessary to understand the health / disease process in these groups, locally knowing the influence of social, economic and cultural determinants. *Objective:* To characterize the health, food and working conditions of collectors of recyclable material of an association in the metropolitan region of Curitiba. *Methodology:* The study used a descriptive, exploratory and qualitative approach. The food condition was analyzed by the Brazilian Food Insecurity Scale. The action-research was used, starting from the analysis of the characterization data of the group. The contents that emerged in the group were elaborated in workshops with the use of the Arch of Magueréz. *Results and Discussions:* In a group of 11 participants, nine women and two men, only two respondents presented a food security situation, four were under mild food insecurity and six, under moderate food insecurity. It was noticed that the health of these workers is directly affected by the working and feeding conditions, which in turn are related to an insufficient level of income and to low schooling level. The workshops were an opportunity for the collective construction of knowledge related to health, starting from the demands of those involved. *Conclusion:* Self-care presented itself as a question to be addressed as a priority by the group. The reflections and actions resulting from the dynamics of the research collaborated to an increase in the empowerment

of the group that showed interest in moving forward in this process, especially in what concerns the search for their rights.

**Keywords:** Recyclable material pickers. Food safety. Health promotion.

## Resumo

*Introdução:* Os catadores de material reciclável, apesar de profissionais essenciais para o desenvolvimento socioambiental dos municípios, constituem um grupo socialmente vulnerável. Assim, para as ações de promoção à saúde, é necessário entender o processo saúde/doença nesses grupos, conhecendo localmente a influência dos determinantes sociais, econômicos e culturais.

*Objetivo:* Caracterizar as condições de saúde, de alimentação e de trabalho de catadores de material reciclável de uma associação na região metropolitana de Curitiba. *Metodologia:* O estudo foi exploratório descritivo e de abordagem qualitativa.

A condição alimentar foi analisada pela Escala Brasileira de Insegurança Alimentar. Utilizou-se a pesquisa-ação, partindo-se da análise dos dados de caracterização do grupo. Os conteúdos que emergiram no grupo foram trabalhados em oficinas com o uso do Arco de Maguerez. *Resultados e Discussões:* Em um grupo de 11 participantes, sendo nove mulheres e dois homens, apenas dois entrevistados apresentaram situação de segurança alimentar, quatro em insegurança alimentar leve e seis com insegurança alimentar moderada. Percebeu-se que a saúde dessas trabalhadoras é diretamente afetada pelas condições de trabalho e alimentação, que por sua vez estão relacionadas a um nível de renda insuficiente e à baixa escolaridade. As oficinas foram uma oportunidade para a construção coletiva dos conhecimentos relacionados à saúde, partindo-se das demandas dos envolvidos.

*Conclusão:* O autocuidado apresentou-se como questão a ser trabalhada como prioridade pelo grupo. As reflexões e ações resultantes da dinâmica da pesquisa colaboraram para um aumento no empoderamento do grupo que demonstrou interesse em seguir em frente nesse processo, principalmente no que se refere à busca de seus direitos.

**Palavras-chave:** Catadores de material reciclável. Segurança alimentar. Promoção da saúde.

## Introduction

The contemporary society shows an exacerbated economic dynamism, based on which consumer goods are quickly disposed of, causing the solid waste production to reach alarming levels.<sup>1</sup>

Despite the approval of Federal Act No. 12,305/2010, which established the National Policy on Solid Waste and the mandatory extinction of landfills, in 2016 only 18% of the municipalities had selective waste collection, which is a growing percentage, however, this number still needs to increase.<sup>2</sup> The poor commitment with the correct disposal of waste causes environmental damages, due to the exaggerated consumption and low reuse.<sup>3</sup>

Within this context, there is a growing number of recyclable waste collectors, which is also related to the increase in the unemployment rates and the qualification demands of the work market. Instituto de Pesquisa Econômica Aplicada (Institute of Applied Economic Research) estimates that, in Brazil,<sup>4</sup> 387,910 waste pickers were identified in Brazil in 2013. This number does not reflect the reality, since several of these professionals do not mention this activity as one that generates income.

According to the Brazilian Classification of Occupations, a recyclable material collector is any professional who “collects, selects and sells recyclable material”, regardless of whether or not they are connected to an association or working informally in the streets.<sup>5</sup> However, the increase in the number of professionals and the regulation of the profession did not reduce the discrimination they suffer due to the fact that their routine is associated to “garbage”, and no significant improvement was observed in their living conditions.<sup>6</sup>

In order to promote health, it is necessary to understand the health/disease process, since it is influenced by socio-economic, cultural and behavioral determinants, reflecting the levels of basic sanitation, income, access to education and health, work and living conditions, among others, which directly affect the social production of health.<sup>7</sup> With all the difficulties related to these professionals, their vulnerability in relation to social determinants is notorious, negatively affecting their life, health, food and work conditions.

Thus, despite performing an essential socio-environmental role for the municipalities, they live under socio-economic and biological vulnerability conditions, since their professional activity involves precarious work and living conditions and reduced remuneration, affecting the eating habits and health of this population, and directly influencing the increase of their food insecurity and affecting the access, quantity and quality of the foods.<sup>6</sup>

Among the associated factors that influence health, the income is considered one of the main factors. In order to reverse this picture, proper public policies are necessary to reduce the social inequality in the country, elaborated based on its main factors, in order for the more vulnerable populations to actually benefit.<sup>8</sup>

Considering this matter, the objective of this study was to characterize the health, eating and life conditions of recyclable material collectors from an association located in the metropolitan area of Curitiba, state of Paraná, Brazil.

## Methodology

The study was characterized as having an exploratory, descriptive and qualitative approach. It used as reference the action-research, a participative methodology whose aim is to allow the social transformations required by the group that participated in the research to be built from the articulation between theory and *praxis*.<sup>9</sup> Thus, it is fundamental to use for this collective construction the data gathered by the research and the knowledge and practices of the workers involved, dialoging and interacting with the academic knowledge produced on the theme, creating solution suggestions indicating a possible path.<sup>10</sup>

As the starting point, an initial data gathering was conducted on the living, work, health and feeding conditions of waste collectors and their families; from there, issues that subside the process of qualitative collection of information were identified. The participants were waste collectors from an Association from the Metropolitan Area of Curitiba, indicated by Instituto Lixo e Cidadania (Waste and Citizenship Institute), a reference institution in the area, which maps this type of initiative. The project was approved by the Research Ethics Committee of Universidade Federal do Paraná (Federal University of Paraná), under process number CAAE 64703817.5.0000.0102.

The research was conducted in four stages: characterization of the association in relation to how it works; identification of the socio-economic profile, health and feeding conditions of waste collectors; conduction of workshops with the systematization of the data obtained through the interviews and from the demands of the participants; and analysis of the information manifested throughout the workshops.

The inclusion criteria were: being a recyclable material collector from the selected association; accepting the participation and signing the Free and Inform Consent Term (TCLE).

The activities in the association involving the collectors related to the study happened from March to November 2017. During all stages, fieldnotes were taken right after the visitation, with the objective of detailing everything that happening during the activity of the day. Below is the methodological detailing of the stages conducted:

- **STAGE 1** – Characterization of the association in relation to how it works: it occurred through visits to the shed where the recycling process is conducted, from talks with the associates and observations and note-taking on the quantity of separated residues, workload, ergonomics, use of individual protection equipment and the work process.

- **STAGE 2** – Identification of the socio-economic profile, health and feeding conditions of the collectors: individual interviews were conducted with the application of an instrument constituted by 43 questions, with the purpose of getting to know the socio-economic profile, health and feeding conditions. For the information related to food (in)security, the Brazilian Food Insecurity Scale (EBIA)<sup>11</sup> was used, as well as the consumption markers referenced by the Food and Nutrition Surveillance System (SISVAN), coordinated by the Health Ministry.<sup>12</sup> The waste collector association has 13 members, from which, two were unable to participate in the interviews. From the 11 participants, only seven female waste collectors accepted to participate in the workshops; male collectors, the president and the member who is responsible for the administration did not participate.

The objective of EBIA is to characterize the level of food (in)security in the applied population. This instrument contemplates 15 questions subdivided into three items: family, dwellers over 18 years of age and, finally, underaged dwellers, with the purpose of evaluating the food security and/or insecurity situation. The result may be complete food security or some degree of food insecurity: mild (restriction as to the quality of the food), moderate (restriction in the quantity of foods) and severe (actual hunger situation). The number of “yes” answers in the EBIA questionnaire reveals the level of food and nutritional security and are shown on chart 1:

**Chart 1.** Statements to classify the food and nutritional security level.

<b>Food and nutritional security level</b>	<b>Presence of underaged participants</b>	<b>Absence of underaged participants</b>
Food security	0	0
Mild food insecurity	1-5	1-3
Moderate food insecurity	6-10	4-6
Severe food insecurity	11-15	7-8

Source: Brazil (2004).

In order to verify the food consumption profile, a questionnaire regarding the frequency of food consumption markers (SISVAN) was used for the population over five years of age. On this questionnaire, there is a list of foods that are considered healthy and unhealthy, and the result depends on the number of days that the interviewed person reports the consumption of such foods. Thus, in cases of healthy foods, the consumption must exceed five days, and for unhealthy foods, it must be below this number.<sup>13</sup>

The quantitative data worked as a starting point for an initial understanding of the reality of waste collectors, supporting the process of building contextualized and broader knowledge as to the living situation of the group, enriched by the report of the individual perceptions of group representants and collective perceptions.

- **STAGE 3** - Workshops, with the feedback from the interviews and discussion, from the demands that interest the participating group: the objective of this stage was to present the data obtained from the interview, in addition to complement information on the perception of collectors regarding these conditions. A dynamic was also conducted, in which the participants informed what they intended for the association, in order to provide subsidies for the discussion of the workshops, and the collectors manifested their feelings in relation to the work they made.

The Active Methodology was used through the Arc of Charles Maguerez, in which the pedagogical process involves a collective building of knowledge, in the search for critical thinking and the autonomy of the group. The arc is obtained through five elements, which become cyclical: observation of the reality, search for key points or problems, theorization, solution hypotheses and the application of reality.<sup>14</sup> All workshops were conducted from talk sessions.

The first workshop occurred based on the feedback from the results of the instrument applied. On the questionnaire, the collectors manifested their interest in working on the themes involving health and food. Thus, four other workshops were designed. At the end, there was the need for further discussions, totaling six meetings.

The theme of the second workshop was “What does health really mean?”, in which the goal was to broaden the concept of health-disease. The third workshop involved “Rights regarding food and health, as well as the importance of self-care”, with the purpose of empowering the collectors regarding this theme. The fourth and the fifth workshops discussed feeding, and they were based on the *Food Guide for the Brazilian Population*<sup>15</sup> and on the presentation of price surveys for *in natura* foods conducted in supermarkets in the municipality. In the last workshop, the previous meetings were recollected, and an evaluation regarding the process as a whole was conducted.

In all workshops, in addition to the fieldnotes, a report was prepared describing all activities, recording the statements of the collectors, their perceptions and the results of the discussions.

- **STAGE 4** – Analysis of the data obtained: based on the results from the interviews, on Excel tables, on the fieldnotes, and on reports made after the workshops and on the evaluations from the pickers.

## Results and Discussion

### Characterization of the organization in relation to how it works

In this association, in addition to the commonly collected material, such as plastics, paperboard, aluminum and styrofoam, they also work with electronics. The separation of all types of residues may be explained by the low price paid for these products; thus, the greater the amount and variety of the material, the greater the remuneration.<sup>16</sup>

Regarding the equipment that belongs to the association, it owns a treadmill, two platform carts and three presses. The separated residues are often left in the open until they are resold due to lack of adequate storage space. Such characteristic may be verified in other associations, such as in Francisco Beltrão, in which one of them, even with the support from the city hall and despite having all the necessary equipment, had difficulties regarding the size of its physical structure, which made it had to perform the activities.<sup>17</sup>

In order to collect residues for separation, the association has two trucks. A partnership was established with some markets from the region and from Curitiba. In addition, the city hall takes once a week recyclable material for selective collection. It is noticed that recyclable material collectors who work in the streets suffer from even more precarious work conditions, since, in order to obtain sufficient amounts of residues for sale, they need to cover large distances on foot.<sup>18</sup>

It was observed that the amount of residues varied a lot and involved factors related to the period, increasing depending on the day of the week or the month. Therefore, on Mondays and after holidays, there was a greater amount of materials, as well as at the end of the year. However, a reduction occurs in January, June and July. An oscillation throughout the year was also reported in a cooperative of collectors in Presidente Prudente, which may be explained by the variation in the productivity of the employees across the months, as well as the low purchase adhesion.<sup>19</sup>

### Identification of the socio-economic profile, health and feeding conditions of the collectors

In relation to the age reported by the collectors, it was observed that four were over 50 years old, two were between 41 and 50 years old, and only one was under 20 years old. In addition, the average age was 42 years old. A study conducted with these professional in Curitiba had an average age of 39 years old.<sup>20</sup>

Schooling is also an important socio-economic indicator, since individuals with a higher schooling level tend to have better wages and, consequently, better living conditions. In the case of the collectors from the studied association, most had not completed the fundamental education, and the highest schooling level obtained was from one participant, who had completed high school.

All collectors reported they had another profession, such as: cleaners, housemaids, kitchen assistant, saleswoman, night guard, rebar setter, fish cleaner, in addition to rural work. According to the study conducted in Icó, recyclable material collectors also had other previous occupations, however, they all had low qualifications and were under domination conditions, that is, the employee was often exploited with wages that did not cover the basic needs.<sup>21</sup>

The use of the individual protection equipment is mandatory, in order to avoid work-related accidents. The collectors are under different chemical, physical and biological risks, due to the incorrect disposal of solid residues by the population, as well as due to ergonomic factors. In the studied association of recyclable material collectors, all members reported that they used individual protection equipment, in addition to making use of it on site. None of the collectors reported any health issues related to the working conditions. In several situations, the collectors stated they picked objects for their own use among the residues. However, these items are mixed with products that cause health risks, and may be contaminated, and should not be used. This situation is even more severe when the object picked is a medication, as reported by four collectors. One study states that the reported accidents during the material collection and recycling work occur due to different factors, such as inadequate segregation and storage by the population, lack of use of individual protection equipment, in addition to lack of attention and possible misunderstandings occurred in the work places.<sup>22</sup>

When asked “what does health mean to you?”, several answers were given, such as: “having no diseases”; “being able to get up early to work, eat and sleep well”; “*the mind has an influence over it*”; “it means social, familiar, religious, and cultural well-being”. When asked “what does disease mean to you?” infirmities were mentioned, in addition to stress: “diabetes, hypertension, high cholesterol, leptospirosis”; “the more severe diseases”;

“*cancer, thrombosis*”, among others. But when the collectors were asked whether they were healthy, most answered positively, and the justifications varied: “*Yes, although I take medicines. I don’t usually stay home due to sickness*”; “*Yes, because I’m able to work, leave early*”; “*Yes, I have a few problems, but it doesn’t affect my daily life*” and when the answers were negative, the justifications were the following: “*No, because I drink, but only once in a while*” and “*No, because I don’t feel healthy, But I always pray I get better.*” It is noticed that the fact that they considered themselves as being healthy or not was attributed to their physical disposition and ability to work, and not to their social and economic conditions and well-being. Studies indicate that the health of recyclable material collectors is related to stressful events, which may result from precarious living and work conditions.<sup>20</sup>

All collectors reported they have never had any health issues or work-related accidents, however, more than half reported they have already injured their hands or had something dropped on their feet during the work time, that is, these workers did not associate work-related accidents as a risk to



their health. It is important to analyze that work-related accidents or related diseases occur anywhere, since there is currently a work deterioration cycle occurring, whether due to work conditions, low wages or due to the physical and mental fatigue, and work is a determining factor for the health/disease process.<sup>23</sup> Also, in relation to the infirmities occurred, most of the interviewees reported they had already missed a work day due to some health issue, and most of them stated they avoided skipping work, since the work day is lost and this means an even lower income.

Regarding healthy eating, the collectors reported that good eating habits may be considered as: those “*from the day by day, which are not harmful to the health*”, “*it means having rice, beans, vegetables and fruits. Varied foods*”. It was observed that the concept of *in natura* and minimally processed foods was related to a perception of healthy eating. In addition, to have better eating habits, the participants mentioned that it is necessary to have better financial conditions para to buy foods, reduce the consumption of industrialized foods, obtaining more guidance and having more access to foods.

These statements indicate that eating is directly related to socio-economic and cultural factors.<sup>24</sup> The average expenses with food for the entire family of the collection in the association was 19.00 BRL/day. It is important to observe that this value was reported by the collectors, and it may be overestimated. Borges et al. concluded that a low-income Family spends in average 3.47 BRL/day with healthy foods, varying according to the amount of household dwellers.<sup>25</sup>

The social programs may contribute to improve the health and eating condition of the population, but only two of the members received a grant from Programa Bolsa Família, and one received sick-pay benefit related to one of their children. Also, in relation to public policies that may benefit the offer of healthy foods, all interviewees knew the Programa Coleta Verde (*Green Collection Program*), which trades solid residues for vegetables for low-income families, although most of them have never accessed it. Social programs such as PBF, which transfer resources to the low-income population, contribute to the healthcare and education in fighting poverty and hunger, since they facilitate the access by vulnerable populations to the food.<sup>26</sup>

The evaluation of the Brazilian Food Insecurity Scale revealed that two interviewees were under a food security situation, four were under mild food insecurity, related to access issues and the quality of the foods, and five were under moderate food insecurity, that is, feeding was compromised regarding the quantity of food. In order to assist in an increased access to the foods, almost half of the collectors reported that they make use of vegetable gardens in their households. In addition, they all went to markets from the region to make their purchases, one also bought food from farmer’s markets, and another received a food basket from the work of their spouses. Sufficient and adequate feeding involves different socio-economic and cultural factors; therefore, in order to evaluate it, it is important to look at the big picture, verifying scales, family incomes, expenses, as well as the eating habits of the population.<sup>11</sup>

The application of the food consumption frequency questionnaire offered important information as to healthy foods, indicating the consumption of raw salads, fruits, meat, milk and dairies, on average five days a week; bread, rice and beans, on average six days a week. The presence of cooked vegetables or potatoes and manioc was not recorded. For “unhealthy” items, the weekly average was adequate for the intake in all categories: canned goods, savory crackers, on average twice a week; cookies and soft drinks once a week; and alcoholic beverages on average 0.4 day. According to Maciel, the current collectors in general show a history of problems related to the lack of food during their childhood, since, since several came from rural environmental, they experienced periods of low food availability due to poverty situations.<sup>1</sup>

## Workshops conducted

### *Workshop 1 – Feedback on the results found*

Initially, there was a discussion as to the words that were mentioned the most by the group expressing the expectations of the collectors regarding the association, and terms such as “peace”, “love”, “union” and “understanding” were mentioned. During this meeting, the collectors were under pressure due to a reduction in the amount of residues that got to the shed for selection, and they were apprehensive regarding possible dismissals, which affected the verbal expressions recorded. In addition, the stress resulting from the work conditions is a determinant factor for their health.<sup>18</sup>

After presenting the results obtained from the data collection regarding their live, health and work conditions, the collectors pointed out the importance of group discussions on their health and eating habits. This may be evidenced by the following statement: “*We don’t know much about it (health), it would be important for us to get to know more about it*” (COLLECTOR 3). However, the time factor was also shown as an obstacle for the workshops to occur: “*Time is an issue. We can’t stay out of work for too long. You may attend the workshops, but they can’t last longer than 40 minutes*” (PRESIDENT OF THE ASSOCIATION). It may be observed, due to the precarious conditions, as well as the excess of work and the low prices paid for the recyclable materials, that important issues, such as health, are not given the necessary priority within the life context of these workers. According to Dall’Agnol, the population must realize, evaluate and elaborate necessary changes to their living and work conditions, by claiming their rights.<sup>27</sup>

The context in which the workshops started shows the submission relationship and the desire of the collectors for work conditions that involve peace and understanding. When these feelings were expressed, the creation of a bond that was built with the group every day, in every meeting, was observed.

### *Workshop 2 – What does health actually mean?*

The conversation started with the word “peace”. The statements showed the precarity of the work conditions and the low remuneration, as mentioned: *“When we don’t have peace, we don’t have health, but peace comes from within us. When we have problems, mainly financial ones, we don’t have peace”* (COLLECTOR 2).

According to the World Health Organization, health may be defined as a state of complete physical, mental and social well-being. For the collectors, the understanding of the term is considered complex and broad, as it may be observed in the following statement: *“Health is complicated, because it involves everything...”* (COLLECTOR 5). In addition, the group built the concept of health through keywords, such as: adequate eating, environment, sleep, time, leisure, opportunities and access to information, physical activities, transportation, religion, access to health and love. For the group, the meaning of health is connected to meeting the social, economic, environmental and cultural conditions that determine the quality of life.<sup>28</sup>

All participants stated that, at the time of the study, they were under adequate health conditions. They also expressed the understanding that this state does not depend on their actions as protagonists, but they pointed out that they believe they can help in this process. This issue is addressed in the following statement: *“...But I believe I can get better if I take care of myself a little more, maybe by taking some time to take a walk or rest”* (COLLECTOR 5). This statement shows the “guilt” relationship of these collectors due to the fact that they are not able to take self-care measures related to a better quality of life and health promotion.

The blaming of the individual is a common practice that depoliticizes the problem, since it shifts the responsibility from the State, with the general promotion of health and its social determining factors, to the patient.<sup>29</sup> One way of contributing to a more adequate notion regarding the responsibilities for the health-disease process in discussions with the population, avoiding the “blaming of the victims”, is to work with the strategies suggested in the Ottawa Charter for Health Promotion (1. Building healthy public policies; 2. Developing personal skills; 3. Creating supportive environments; 4. Strengthening community actions; and 5. Re-orienting healthcare services), since it establishes the Public Authorities as the main responsible for this role. On the other hand, concerns as these may come from internal reflections and/or from the group discussions, creating changes in habits that may collaborate to promote the health of the individual or of groups.<sup>27</sup>

### *Workshop 3 – Search for effective rights and the importance of self-care*

The activity started with statements related to the agreements reached in the previous workshop to improve self-care, that may be related to sleep, eating or resting: *“I was able to sleep better, we*

*exercised together, and I could get better rest*” (COLLECTOR 6). The other mentioned her struggle: *“It is hard to be healthy with the kind of transportation we have”* (CATADORA 7). From this statement, they were asked about what the rights of the population were: *“I think that everything that affects our health must be improved, and this is our right”* (COLLECTOR 3).

They were asked about the right to have access to food. The answer was: *“The Program (Bolsa Família), which may people don’t like, is of the possibilities; I no longer receive it, but when I did, it was very good”* (COLLECTOR 2). After they discuss the advantages and disadvantages, the conclusion of the collectors regarding Bolsa Família was that it significantly contributes to fight poverty and hunger.

According to Martins, the income transfer programs must be evaluated in relation to possible frauds that are occasionally verified, above all in relation to the positive aspect that implies receiving this money. It contributes to the acquisition of necessary goods, such as food, and the health and education of families that live under greater vulnerability and that need these actions as an emergency measure.<sup>26</sup>

Regarding self-care, all collectors stated they need to save some time for themselves in their daily lives, but the major concern is not being able to handle the daily activities, as observed in the following statement: *“We fear that there won’t be enough time for the others, to clean the house, to help others or even to prepare the Sunday lunch, then we end up not taking the time to think about ourselves, but I think it is important, we’re trying”* (COLLECTOR 3). Guilt or even the triple work day becomes an important factor for the health conditions, since this overload causes the collectors not to be able to prioritize their needs. In this case, a fair and urgent alternative to be implemented is the responsibility of taking care of the family and the domestic labor is equally shared with men.<sup>30</sup>

To promote self-care, a relaxation activity was suggested, and all participants seemed to be moved by the reflection: *“Wow, it would be so good if we got to do this all the time, I wish I could be here for longer”* (COLLECTOR 4). This type of practice, that favors self-care, has become increasingly more notorious in different environment, since these actions create significant changes to the life and feeding conditions, as observed in a study made in Porto Alegre.<sup>27</sup>

The difficult life conditions of the collectors, due to the exhaustive work, the low wages, their basic needs and the difficulty to access health and proper education must be the bases for efficient policies that ensure the rights of this population.

#### *Workshop 4 – Healthy eating*

The objective of this workshop was to promote *in natura* and minimally processed foods, in addition to reduce ultra-processed ones. For such, it was necessary to recollect eating memories from the past, in which the intake of industrialized products was minimal or even non-existent, as

mentioned by one of the participants: “*Food was more natural, junk foods did not exist*” (COLLECTOR 2). However, they also recalled the difficulties to have access to varied foods: “*It was really hard, there was no variety, but we always had food*” (COLLECTOR 7). The content of the *Food Guide for the Brazilian Population* agrees with the statements of the collectors, stressing that, in order to have healthy foods as the basis of the meals, they must be constituted by *in natura* and minimally processed foods, in addition to meeting the socio-economic and cultural conditions.<sup>15</sup>

To reach the concept of *in natura*, minimally processed, processed and ultra-processed foods, the “Ten steps for healthy eating”, from the *Food Guide for the Brazilian Population*, were discussed. A discussion was held and it was observed that the collectors were not able to differentiate the levels of food processing. After it was cleared up, they were able to properly identify the images of foods according to the proper categories. The group was excited with what they were learning, as it may be observed in the following statements: “*Now it is easy to know what to eat, it is different from what they tell us on TV*” (COLLECTOR 4) and “*Now it will be ‘hard’ to go to the market, we will know whether something is healthy or not*” (COLLECTOR 3).

### *Workshop 5 – Accessible healthy eating*

This workshop was elaborated from a demand by the participants, who questioned the fact that healthy eating may be often considered as more expensive than the conventional one, as observed in the following statement: “*I think ultra-processed foods are actually cheaper, but we must think about our health, we would spend less with medications, in addition to the fact that healthy foods last longer*” (COLLECTOR 6). A shopping list with *in natura* and minimally processed foods and another with ultra-processed foods were collectively elaborated. In the opinion of the collectors, the first one would have a higher value, but they observed, through the prices researched in supermarkets in the municipalities, presented by them, that *in natura* and minimally processed foods are cheaper when bought in bulk, and they tend to last longer, since they are not used only for one meal, as the industrialized ones.

A study that compares the prices of foods in Brazil also states that *in natura* and minimally processed foods must be prioritized in relation to ultra-processed ones, when the “cost” characteristic is analyzed.<sup>31</sup> Therefore, when thinking only about the financial aspect, it is a myth to think that healthy foods are more expensive; whether or not there is access to these foods must also be taken into consideration. In addition, regarding cooking, they often demand more time for their preparation, which may affect the particular demands of the collectors or their work time. Such issues are obstacles that make this process harder, since they imply the need to change the routines at home and at work, in order to create healthier eating habits, also influencing the wages they receive. This is an issue that must be further discussed collectively, in order for opportunities to be observed and made feasible.

The purpose of the discussion in this workshop was to search for strategies to reduce costs. The collectors used their own examples at this time: *“I start at the back of the market, where the basic products are. If I have money left, I buy the junk food”* (COLLECTOR 5). This statement may be explained by the influence of advertisement, since the arrangement of the shelves in the supermarket promotes the selling of the products. Collector 5 added: *“That’s because they (the owners of the supermarket) know that we are going to buy rice and beans, then they hide them (the in natura and minimally processed foods)”* (COLLECTOR 5).

Other solutions to minimize costs with foods were considered efficient, such as: sales, seasons, larger amount and the division among several people. The “Food Guide,” as a reference document used, corroborates with the strategies of the collectors in order to reduce costs with healthy foods when it states that the season must be taken into consideration, as well as the production methods, in order to promote small producers.<sup>15</sup>

The workshops were evaluated during a conversation, in which the collectors expressed their satisfaction for participating in the meetings, as shown by the following statement: *“The association is certainly better than when we started these meetings”* (COLLECTOR 7). It is noteworthy that, since health involves different factors, the work conditions are improved with changes to the lives of the workers. Regarding the changes, the following is pointed out: *“After the day in which we discussed about healthy foods, I no longer bought junk food, and it worked!”* (COLLECTOR 4); *“We are taking some time for ourselves, or at least we remember we must do that, but it is still hard sometimes”* (COLLECTOR 5); and *“It was also important for us to know that health involve more than not having a disease”* (COLLECTOR 6).

Finally, the knowledge building and the changes may be conducted through an individual or collective reflection process, and from conversations and mutual help. It was observed that this group of collectors obtained positive changes to the work environment related to a fairer remuneration for the work made, according to the following statement: *“We had no peace, we were facing a complicated time, the president saw that we wrote we wanted peace, it was a mess, but now we have peace”* (COLLECTOR 2).

## Conclusions

It is important to develop research to get a deeper knowledge regarding the living conditions of recyclable material collectors, since this is a vulnerable population, with precarious health, eating and work conditions. In addition, these workers are still discriminated because they work with recyclable materials, which is no rarely considered as working with “garbage”.

It is the right of the collectors to have access to living conditions that offer good qualities in terms of health, eating, education, work, transportation, safety and freedom of speech. This study

showed that such rights are not yet ensured for this population, which evidences the importance of actions and policies to ensure the access to these conditions. However, these actions must be based on the understanding of the demands of the collectors and on their active participation in building knowledge to contribute to a greater access to adequate work, living and health conditions.

Knowing the local health and feeding conditions, as well as offering a dynamic for the research participants to discuss these conditions, collaborated to empower the group, which was interested in continuing with this process, above all in relation to the search for their rights regarding a collective elaboration of solutions and the necessary social transformations for such changes to be made effective.

## Contributors

Arcain JR had a substantial contribution for the conception and planning or for the analysis and interpretation of the data; Lopes MO had a substantial contribution for the conception and planning or for the analysis and interpretation of the data; Rigon SA had a substantial contribution for the elaboration of the draft or the critical review of the content; da Silva MZ participated in the approval of the final version of the manuscript.

Conflicts of interests: The authors declare that there is no conflict of interests.

## References

1. Maciel RH, Matos TGR, Borsoi ICF, Mendes ABC, Siebra PT, Mota CA. Precariedade do trabalho e da vida de catadores de recicláveis em Fortaleza, CE. *Arqu Bras Psicol.* 2011; 63(especial):71-82.
2. Compromisso empresarial para reciclagem – CEMPRE. Disponível em: <http://www.cempre.org.br/>
3. Chiva APT, Freitas LB, Cunha MT, Cândida ML. Cooperativas de reciclagem: solução para o problema do lixo em Campinas. *Revista Ciências do Ambiente On-LinE.* 2006; 2(1):68-76.
4. Instituto de Pesquisa Econômica Aplicada. Situação social das catadoras e dos catadores de material reciclável e reutilizável. Brasília: Ipea; 2013. 68 pf.
5. Brasil. Ministério do Trabalho. Classificação Brasileira de Ocupações - CBO. Disponível em: <http://cbo.maisemprego.mte.gov.br/cbsite/pages/home.jsf>
6. Rolim RS, Teixeira KMD, Fernandes RAU. Uns valorizam, outros discriminam: família e sociedade na percepção dos catadores de materiais recicláveis. *Revista Brasileira de Economia Doméstica.* 2015; 26(1):205-224.
7. Teixeira MB, Casanova A, Oliveira CCM, Ensgtrom EM, Bodstein RCA. Avaliação das práticas de promoção da saúde: um olhar das equipes participantes do Programa Nacional de Melhoria do Acesso e da Qualidade da Atenção Básica. *Revista Saúde em Debate.* 2014; 38(especial):52-68.

8. Sperandio N, Priore SE. Prevalência de insegurança alimentar domiciliar e fatores associados em famílias com pré-escolares, beneficiárias do Programa Bolsa Família de Viçosa, Minas Gerais, Brasil. *Epidemiol Serv Saúde*. 2015; 24(4):739-748.
9. Thiollent M. Metodologia da pesquisa-ação. 8 ed. São Paulo: Cortez; 1985.
10. Nunes JM, Infante M. Pesquisa-ação: uma metodologia de consultora. Rio de Janeiro: Editora Fiocruz; 1996. 224 p
11. Segall-Côrrea AM, Marin-Leon L. Segurança alimentar no Brasil: proposição e usos de Escala Brasileira de Medida da Insegurança Alimentar (EBIA) de 2003 a 2009. *Revista de Segurança Alimentar e Nutricional*. 2009; 16(2):1-19.
12. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Protocolos do Sistema de Vigilância Alimentar e Nutricional - SISVAN. Brasília: Ministério da Saúde; 2008. 61 p.
13. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Orientações para avaliação do consumo alimentar na atenção básica. Brasília: Ministério da Saúde; 2015. 33 p.
14. Prado ML, Velho MB, Espíndola DS, Sobrinho SH, Backes VMS. Arco de Charles Maguerez: refletindo estratégias de metodologia ativa na formação de profissionais de saúde. *Esc Anna Nery*. 2012; 16(1):172-177.
15. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Guia alimentar para a população brasileira. 2 ed. Brasília: Ministério da Saúde; 2014. 152 p.
16. Bastos HM, Araújo GC. Cidadania no contexto dos catadores autônomos de materiais recicláveis. *Rev. Adm. UFSM*. 2015; 8(especial):60-73.
17. Massarollo MD, Tega Junior J, Tognon FAB, Tognon R. Quantificação e comercialização dos resíduos da associação dos catadores do município de Francisco Beltrão [Internet]. XX Congresso Brasileiro de Engenharia Química; 2014; Florianópolis. Disponível em: <https://slidex.tips/download/quantificacao-e-comercializacao-dos-residuos-da-associacao-dos-catadores-do-municip>
18. Arantes BO, Borges LO. Catadores de materiais recicláveis: cadeia produtiva e precariedade. *Arq Bras Psicol*. 2013; 65(3):319-337.
19. Sampaio BDS, Trombeta LR, Leal AC. O trabalho dos catadores de materiais recicláveis: da precarização à organização do trabalho. *Revista Pegada*. 2012; 13(1):167-186.
20. Alencar MCB, Cardoso CCO, Antunes MC. Condições de trabalho e sintomas relacionados à saúde de catadores de materiais recicláveis em Curitiba. *Revista Terapia Ocupacional*. 2009; 20(1):36-42.
21. Brasil KNL, Lima AF, Santos BO. A construção identitária dos catadores de materiais recicláveis de Icó (Ceará). *Revista FSA*. 2016; 13(3):209-227.
22. Galon T, Marziale MHP. Catadores de materiais recicláveis: um encontro nacional. In: Pereira BCJ, Goes FL, organizadores. Condições de trabalho e saúde de catadores de materiais recicláveis na América Latina: uma revisão de escopo. Brasília: IPEA; 2016. p. 169-200.



23. Cardoso ACM. O trabalho como determinante do processo saúde-doença. *Tempo Social*. 2015; 27(1):73-93.
24. Lindemann IL, Mendoza-Sassi RA. Orientação para alimentação saudável e fatores associados entre usuários da atenção primária à saúde no sul do Brasil. *Rev Bras Promoç Saúde*. 2016; 29(1):34-42.
25. Borges CA, Claro RM, Martins APB, Villar BS. Quanto custa para as famílias de baixa renda obterem uma dieta saudável no Brasil? *Cad Saúde Pública*. 2015; 31(1):137-148.
26. Martins APB, Canella DS, Baraldi LG, Monteiro, CA. Transferência de renda no Brasil e despechos nutricionais: revisão sistemática. *Rev Saúde Pública*. 2013; 47(6):1159-1171.
27. Dall'agnol CM, Fernandes FS. Saúde e autocuidado entre catadores de lixo: vivências no trabalho em uma cooperativa de lixo reciclável. *Rev Latino Am Enfermagem* [Internet]. 2007; 15 (número especial). Disponível em: [http://www.scielo.br/pdf/rlae/v15nspe/pt\\_02.pdf](http://www.scielo.br/pdf/rlae/v15nspe/pt_02.pdf)
28. Santos DS, Tenório EA, Brêda MZ, Mishima SM. Processo saúde/doença e estratégia de saúde da família: o olhar do usuário. *Rev Latino Am Enfermagem*. 2014; 22(6):918-925.
29. Ferreira Neto JL, Kind L, Barros JS, Azevedo NS, Abrantes TM. Apontamentos sobre promoção da saúde e biopoder. *Saúde Soc*. 2009; 18(3):456-466.
30. Kuhn DI. “Eu não sou lixo”: abjeção na vida de catadores e catadoras de materiais recicláveis [tese]. [Curitiba]: Universidade Federal do Paraná; 2016. 293 p.
31. Claro RM, Maia EG, Costa BVL, Diniz DP. Preço dos alimentos no Brasil: prefira preparações culinárias a alimentos ultraprocessados. *Cad Saúde Pública*. 2016; 32(8). Disponível em: <http://www.scielo.br/pdf/csp/v32n8/1678-4464-csp-32-08-e00104715.pdf>

Received: September 27, 2018

Reviewed: October 10, 2018

Accepted on: October 12, 2018

