

CONDITIONS OF WORK OF SOLID WASTE COLLECTORS: CHALLENGES AND PERSPECTIVES FOR A SAFE WORK

CONDIÇÕES DE TRABALHO NO CONTEXTO DE CATADORAS DE MATERIAIS RECICLÁVEIS: DESAFIOS E PERSPECTIVAS PARA O TRABALHO SEGURO

CONDICIONES LABORALES EN EL CONTEXTO DE RECOLECTORES DE RECICLABLES: RETOS Y PERSPECTIVAS PARA EL TRABAJO SEGURO

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ABSTRACT

The study aimed to describe the working conditions according to the perception of associated recyclable material collectors, highlighting the challenges and perspectives for safe work from nursing care action. It is a qualitative study, based on the convergent-care research, carried out with 11 solid waste collectors from an association in the South of Brazil. Data were produced through participant observation, semi-structured interviews and convergence group. The analysis was performed through the steps established by the method, namely collection, synthesis, theorization and transference. As a result, three categories emerged: "Work organization as an aggravating factor of working conditions: disagreements in communication and collaboration"; "Working conditions aggravated by turnover and work overload"; and "Perspectives for safe work: discussing working conditions". The data show that garbage collectors experience precarious working conditions mainly related to the execution of tasks, hampered by failures in the communication and collaboration between team members and suppliers of recyclable materials. The precarious working conditions culminate in overload, pain, self-medication and accidents. The discussion of working conditions proved to be a successful assistance practice for the promotion of safe work. We concluded that the mediation of a space for dialogue and agreement can offer perspectives for the optimization of safe work.

Keywords: Nursing; Occupational Health; Working Conditions; Solid Waste Segregators; Community-Based Participatory Research.

RESUMO

O estudo objetivou descrever as condições de trabalho segundo a percepção de catadoras de materiais recicláveis associadas, destacando os desafios e perspectivas para o trabalho seguro a partir da ação assistencial de enfermagem. Trata-se de estudo qualitativo, fundamentado na Pesquisa Convergente-Assistencial, realizado com 11 catadoras de materiais recicláveis de uma associação do Sul do Brasil. Os dados foram produzidos por meio de observação participante, entrevistas semiestruturadas e grupo de convergência. A análise foi realizada por meio dos passos estabelecidos pelo método: apreensão, síntese, teorização e transferência. Como resultados emergiram três categorias: "Organização do trabalho como elemento agravante das condições de trabalho: desencontros no processo de comunicação e colaboração"; "As condições de trabalho agravadas pelo rodízio de atividades e sobrecarga laboral"; e "Perspectivas para o trabalho seguro: problematizando as condições de trabalho". Os dados evidenciam que as catadoras vivenciam precárias condições de trabalho relacionadas, principalmente, à execução das tarefas, dificultada por falhas no processo de comunicação e colaboração entre os membros da equipe e com os fornecedores de materiais recicláveis. As precárias condições de trabalho culminam em sobrecarga, dor, automedicação e acidentes. A problematização das condições trabalho mostrou-se uma exitosa prática assistencial para a promoção do trabalho seguro. Concluiu-se que a mediação de um espaço de diálogo e pactuação pode oferecer perspectivas para a otimização do trabalho seguro.

Palavras-chave: Enfermagem; Saúde do Trabalhador; Condições de Trabalho; Catadores; Pesquisa Participativa Baseada na Comunidade.

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RESUMEN

Este estudio busca describir las condiciones laborales desde la percepción de los recolectores de reciclables asociados, destacando los retos y perspectivas para el trabajo seguro a partir de la acción asistencial de enfermería. Se trata de un estudio cualitativo en base a la investigación convergente-asistencial realizado con 11 recolectores de reciclables de una asociación del sur de Brasil. Los datos se obtuvieron por medio de observación participante, entrevistas semiestructuradas y de un grupo de convergencia. El análisis siguió los pasos establecidos por el método: aprehensión, síntesis, teorización y transferencia. Como resultados surgieron tres categorías: "Organización del trabajo como elemento agravante de las condiciones laborales: desencuentros en el proceso de comunicación y colaboración"; "Condiciones laborales agravadas por la rotación de actividades y sobrecarga de trabajo"; y "Perspectivas para el trabajo seguro: problematizando las condiciones laborales". Los datos evidencian que las condiciones laborales de los recolectores son precarias, principalmente aquellas relacionadas con la ejecución de las tareas, dificultadas por fallas en los procesos de comunicación y colaboración entre los miembros del equipo y con los proveedores de reciclables. Dichas condiciones laborales culminan en sobrecarga, dolor, automedicación y accidentes. La problematización de las condiciones laborales demostró ser una práctica asistencial exitosa para la promoción del trabajo seguro. La mediación de un espacio de diálogo y de establecimiento de acuerdos podría ofrecer perspectivas para la optimización del trabajo seguro.

Palabras clave: *Enfermería; Salud Laboral; Condiciones de Trabajo; Segregadores de Residuos Sólidos; Investigación Participativa Basada en la Comunidad.*

INTRODUCTION

Although work is recognized as an activity that produces human identity and subjectivity, it can often be not only a source of satisfaction and pleasure but also of suffering or even illness.¹ In Brazil, in the last decades, economic and social transformations have culminated in the worsening of working conditions in some sectors, resulting in the incidence of occupational diseases and accidents.²

Nevertheless, people need adequate working conditions so that they can preserve their health in the work experience.³ The term working conditions refers to the set of situations on which the work activity develops and that influence the work experience, including the interpersonal relations, directly affecting the quality of life, health and the occurrence of physical and psychosocial damages in the worker.⁴ Thus, this concept emerges as a relevant object of study in the field of occupational health, since it allows us to understand how work can act as a social determinant of health.

In this sense, it is relevant to know the working conditions of specific groups, such as solid waste collectors, considered as being exposed to social and labor vulnerability.^{5,6} A review of the international literature has shown that working with recyclable materials in the conditions set in most countries is related to damages to the physical and psychological well-being of workers. These people live on a daily basis with a set of risks associated with the possibility of illness and accidents.⁶ Therefore, these workers represent a group that may be chosen by nursing researches and managers, given their possible health and care needs.

The working conditions of waste collectors have been described in recent studies, including in the field of nursing.⁷⁻⁹ However, research with this group has developed predominantly in the field of diagnosis, requiring participatory and interventional studies.¹⁰ Thus, the present study proposed to carry out an investigative practice in concomitance with a nurs-

ing care action, contributing to the construction of knowledge about the health of this group, which justifies its relevance.

The design was based on the research question: "How do solid waste collectors perceive their working conditions, and what are the possibilities of nursing care action?". The relevance of this research question is justified inasmuch as it seeks knowledge about the working conditions of a vulnerable population from its own perspective, contributing to the strengthening of its visibility in the health sector. In addition, it adds a component of care action to the study design, which can focus the action on the results, based on a participatory design. This study aims to describe the working conditions according to the perception of associated solid waste collectors, highlighting the challenges and perspectives for safe work from nursing care action.

METHOD

A qualitative study based on the Convergent-Care Research (CCR), which consists of a methodological framework that proposes a model of investigative practice, performed in concomitance with nursing care actions in the same physical and temporal space.¹¹

The study scenario was an association of recyclable material collection located in the South of Brazil. This association was founded in 1993 and its workers have performed the selective collection in their city, owning a shed and trucks to carry out this activity.

The study participants were the 11 women who worked in this association. At the time of data production, no female worker was away from work; therefore, none was excluded. There were also no sample losses. Of the 11 workers, nine worked in the recycling shed and two in the trucks.

The research was conducted between April and June 2015. The instruments chosen for data production were the participant non-systematic observation, the semi-structured interview and the convergence groups.

The participant non-systematic observation allowed the understanding of the phenomenon at the moment it occurred through the insertion of the main researcher in the field and through open and free observation of the working production (non-systematic method). It was held in the recycling shed for eight days, totaling 36 hours of observation. In the course of the observation, aspects related to physical and organizational working conditions were observed. At the same time, there was interaction and exchange between the researcher and the participants, so that the researcher-nurse was able to identify and perform some nursing actions that included guidelines for safe work. A field diary was written with the researcher's observations, whose excerpts are identified in the results of this study by the acronym ON (observation notes), followed by the observation date.

The semi-structured interviews enabled the knowledge of workers' perceptions about their working conditions, a fundamental step for the recognition of the subjects' experiences in the performance of their work. They had an average duration of 20 minutes and were made at the end of the observations. They were held in the association's office, a place that provided participants with comfort and privacy. The interviews were conducted with the help of a semi-structured script that investigated participants' perception and feelings about their work; factors that optimized or made difficult the accomplishment of their work; physical sensations arising from the accomplishment of daily tasks.

The convergence group comprises a group technique through which it is possible, based on the interaction between the participants, to produce research data and, at the same time, to carry out assistance practices that help the participants to produce improvements in their living and health conditions.¹² For this purpose, a meeting was held in the kitchen of the said association, in a table around which the participants and the researcher were arranged in a circle. The meeting was conducted from a semi-structured script and aimed at the discussion of the data collected in the investigative stages. During the convergence group, the participants were encouraged by the researcher to discuss the problems related to working conditions and, together, to find solutions for them. This stage, therefore, consisted of the care practice of the CCR. This meeting lasted 45 minutes.

The interviews and the convergence group were audio recorded with the consent of the participants. The *corpus* of the study consisted of the field diary and the audio transcriptions. The analysis was based on the steps proposed by the method, namely collection, synthesis, theorization and transfer.¹¹ In the collection phase, the researchers performed organization, deep reading and appropriation of the empirical material in order to select relevant content to meet the study objective. In the synthesis phase, we provided material and organization coding according to the semantic similarity between the findings, leading to the categorization stage. In the theorization, with the posses-

sion of results and inferences, the researcher turned to the literature, seeking approximation and discussion with similar studies. Finally, in the transfer, there was reflection about the applicability of the findings to other scenarios and future research.

In the presentation of the results, the participants were identified by the letter W (which starts the word "worker") followed by the cardinal number that corresponds to the order of the interviews. The identification of the statements also contains the identifying codes I, when the interview comes from an individual interview, or CG, when it comes from the convergence group.

This study was carried out after approval by the local *Comitê de Ética em Pesquisa* under *Certificado de Apresentação para Apreciação Ética* 40072614.9.0000.5346 and was conducted in accordance with Resolution 466/2012 of the *Conselho Nacional de Saúde* (BR).

RESULTS

The association had a headquarters, which was composed of the recycling shed, a cafeteria, a locker room, an office and bathrooms. In the recycling shed, the recyclable material was received and separated by types (cardboard, paper, glass, plastic, etc.) into tables, a process known as sorting. The paper was cut into specific machines in order to eliminate printed information, which was termed by workers as "secrecy". There was also a specific space for scrap removal. After being separated, the materials were processed in presses and transformed into bales, which were stored for later sale. There was also a space for storing the surplus material, called by the workers as "cages".

In relation to the functioning of the association, the workers were divided to work in the shed and in the two trucks, in which the workers carried out the collection in companies, public institutions and residences of the city that had registered for the selective collection. The work in the trucks followed a roadmap, that is, a collection route in the different locations, which was previously scheduled with the suppliers. The recyclable material was transported by the trucks and taken to the shed for disposal.

The representative categories of the results of this study are as follows.

WORK ORGANIZATION: DISAGREEMENTS IN COMMUNICATION AND COLLABORATION AS AN AGGRAVATING FACTOR OF WORKING CONDITIONS

The recyclable material collectors highlighted a set of operational situations and in the scope of work organization that, according to them, affected their working conditions. Some participants mentioned disagreements among the workers in

the execution of the tasks, manifested by failures in the process of communication and collaboration among the team members. The feeling that there would be unwillingness on the part of the colleagues for the optimization of the collective work was highlighted by some participants:

I think [it makes it harder] when you need help and you have to call someone to come. They keep watching the car standing in the front of the shed and looking at each other's faces to see who is going. I think this is very annoying (W11, I).

When one, two miss work, it is very difficult because if the one in the truck is missing, we have to leave the table to go in the truck, and then it "breaks" the table. And if one of us in the table miss work, it "breaks" even more because those of the truck cannot stay (W3, I).

The workers also reported miscommunication with the truck workers because they did not assist in the process of transfer of the recyclable material to the interior of the association, which increased their overload:

I think when they [truck workers] put down the cardboard in front of the shed, it gets pretty bad. I have to take it to the bottom and then make the bale (W9, I).

Moreover, the space dispute within the association for the accommodation of the workers with their respective tasks was mentioned by the participants, evidencing the interference of the physical structure in the working conditions, being also related to the increased risk of occupational accidents:

[...] they have been "pushing me," [...] I used to have a big space to work, to disassemble the scrap, I did not hurt myself, it did not hit myself, and now they almost want me to work from the outside. This, for me, is bad because I need a table, I need to work with the body standing, I cannot work kneeling or squatting, because at night I cannot sleep, my body gets too much tired [...]. (W11, I)

Another element present in the testimonies is the collection of materials in the residences, since people do not always facilitate the delivery of waste, increasing the difficulties faced. Once again, the risk of personal injury was cited as a result of these difficulties:

In the truck, when I go, people take a long time, they do not leave it organized. So it takes a long time there. Wednesdays or Thursdays is the day the truck passes[...]

And even then it takes ten, fifteen minutes. [...] There are places that people already leave it near the gate, it makes easier; it does not take seconds (W5, I).

Sometimes people put it in the right place. Because there are some people, oh my[...] We went in [name of company] today, up there. My colleague and I ended up hurting our arms. They could put down [the material] and leave it down there. Because sometimes there is no parking, sometimes we walk a block to take [the material] to the truck. This sometimes makes it difficult for us to work [...] (W8, I).

WORKING CONDITIONS AGGRAVATED BY TURNOVER AND WORK OVERLOAD

In the participant observation, the overlapping of tasks during the working day, represented by the rotation of activities, was evidenced. Each of the workers is responsible for a sector of work, usually the one with which they have more affinity. The operational needs, however, cause them to migrate to different tasks, sometimes taking different activities throughout the day:

I help to unload, I weigh [...] I carry cardboard, I push the bales, I work in sorting, in secrecy; when need I go[...] I sweep, I carry glass. All this (W6, I).

I do everything a little, I go in the truck when there is need, today I'm in the press, I work at the table, if there is need to go somewhere, I go with the other colleagues to get material in some house, work in the secrecy, I'm always "bouncing" (W3, I).

I help to do everything and more. When there is need, I go out, we help unloading the truck; we stop all the time to do something different (W1, I).

This configuration of work pace, associated with the physical effort required by many of the tasks performed daily, characterizes work as predominantly intense and tiring:

I feel, first of all, tired (W1, I).

The tiring days are more common. We have few calm days. Because when there is not too much cardboard, we have to get things from the cage to do. There, in the press, it is quite tiring [...] (W9, I).

Both are difficult [referring to work on shed and in the trucks]. [...] These days we climbed up the stairs, [colleague's

name] and I almost hurt ourselves. Today we hurt our arms going down stairs with cardboard, a heavy box [...] (W8, I).

The overload to which the collectors are exposed was also evidenced in the participant observation:

[...] While they were carrying the papers, all [the collectors] were unanimous in the fact that it would take a long time to forward all the material. At that moment, the overload to which women are exposed was clear to me, and the fact that it is not always possible to account for the work that accumulates in the shed [...] (ON, 04/27/2015).

Finally, the data from this study emphasized the potential implications of overload and precarious working conditions on the health of waste collectors. The impacts of these implications are translated into living with pain and self-medication, as well as in the occurrence of occupational accidents:

Intense back pain. I take a muscle relaxant when I am in pain [...] (W1, I).

Once I got bit with those little needles. [...] I came full, loaded [of recyclable materials], and it took in my leg, the sting [...] (W10, CG).

PERSPECTIVES FOR SAFE WORK: DISCUSSING WORKING CONDITIONS

The nursing actions, in this study, also started at the participant observation stage. The moments of meals and rest after lunch were especially favorable to approach some themes informally with the workers, such as the use of personal protective equipment. The insertion of the researcher among the workers allowed the dialogue and the orientations to be carried out at the same time and space in which the problems were observed, as shown in an excerpt from the field diary:

[...] It caught my attention me that the worker took the materials with her hands, without gloves. At times, she would push her whole hand into the bag of mixed materials and take out from there broken pieces of glass. I questioned her about this risk; she replied that she was never hurt and that she would never get hurt. Later, I found a pair of rubber gloves, put them in her pocket and asked her to wear them [...] (ON, 04/14/2015).

However, the main care actions of this study were made based on the discussion of working conditions issues during the convergence group. As a care strategy, a space was established

in which the freedom of speech and expression was valued, to the detriment of prescriptive guidelines. The convergence group served as a space where the female workers could expose their dissatisfaction, think about measures to improve working conditions and negotiate pacts. The following testimony illustrates one of the moments in which a participant verbalized for the group on the need for collaboration to establish safe work:

It is just that I think everyone would have to remember on another [on use of personal protective equipment]. Those who come in uniform do not remember those who do not come in uniform. Those who wear boots do not remember those who do not wear boots, even though they know they can hurt the foot, they can cut themselves, and much more things. So, it is difficult. Then, we talk at the table, everyone listens, everyone agrees with everything, but when they get out the door it does not work (W11, CG).

The convergence group served as a space for making pacts for safe work and, therefore, a potential for improving working conditions. The main pacts established were the use of uniforms and personal protective equipment by all workers; resumption of team meetings as deliberative space and commitment of all to comply with what is decided in that space; collaboration of all for the organization of the physical space, respecting the spaces established for each purpose.

DISCUSSION

The data relate to the relationship between organization elements in the working conditions of recyclable waste collectors. The work organization is understood as the set of bureaucratic, structural and hierarchical elements agreed and institutionalized in the work environments, which include division of labor, the relationship of workers with the bosses, positions of command and hierarchies, the flexibility or rigor encountered by the employee in the performance of their duties, and the negotiation possibilities.¹

The data suggest that there are organizational issues related to working conditions, since the communication problems between the team and the disagreements regarding the fulfillment of tasks hamper the pace and, in some situations, prevent them from being performed in a more safe way for all.

A study carried out with solid waste collectors revealed they have complaints about the disunity among the members of the team, which culminated in disorganization and lack of understanding in the moments in which they had to solve specific issues.¹³ Therefore, these elements are important for the establishment of favorable and satisfactory working conditions, promoting the execution of work in a safe way.

A review study of the national and international literature has reported that the working conditions of recyclable waste collectors are often affected by the high turnover of collectors and the existence of interpersonal problems in the group, which causes disintegration and discontinuity in collective work.¹⁴ This shows that this fact is common to other realities in Brazil and in the world.

The deadlocks in relation to the material collection have been related, in contrast, to the lack of collaboration or knowledge of the people and institutions that provide the recyclable material for the association. Research carried out with recyclable material collectors emphasized that, at the same time they experience a gradual construction of recognition of their work by the society, there also have feelings of devaluation and invisibility. This is due, in part, to the fact that the collector works with what has been discarded, which has been annulled by most people as to their value and importance.¹⁵

Studies corroborate these findings, showing that the working conditions of the collectors are affected by the difficulties in performing the selective collection in the city.¹⁴ The lack of collaboration of the public power adds to the prejudice and invisibility of recyclable material collectors^{10,14}. It can then be assumed that there is little visibility and sensitivity to the work of selective collection and, as a result, there is the occurrence of disagreements in the process of communication and information that culminate in the increase of the overload and worsening of working conditions.

As for the overlapping of tasks and constant turnover of the collectors between different activities throughout the day, it is important to emphasize that there is often a gap between what is expected from the work organization and what the worker needs to face in their daily life. This distancing reflects the prescribed work and the actual work. The prescribed work corresponds to the set of tasks and functions that are foreseen by the worker, that is, they concern all the situations that are expected in their day-to-day and the actions that are established in their competences. Real work represents the reality of work experience, characterized by the set of situations, including unexpected ones, that require the individual to adapt, make decisions and conducts.¹

Work, as opposed to characterizing a fixed element, represents a complex and dynamic action that mobilizes the individual completely. It requires from the worker the necessary adaptations so that they can account for its demands, which often culminates in the overlap of responsibilities.

The data of this study leads us to suppose that the work overload is a result of the precarious infrastructure and workforce, besides the intensification of work. In line with this, authors affirm that, in Brazil, associations of recyclable materials vary with regard to the level of organization, availability of

space and infrastructure, management capacity, as well as the availability of workforce. Moreover, they indicate that, in most Brazilian associations, there is great turnover, leading to discontinuities in the work process.¹⁶

This converges with the literature, which evidences the precarious working conditions of the associated collectors in Brazil and in the world, which are often related to low working capital and precarious infrastructure, including the mismatches of working instruments and obsolete physical space,¹⁴ which is in line with the results of this study. Therefore, the perception of the workers in this study is in agreement with the publications.

As a consequence of this situation, the workers recognized the impacts on their health and physical integrity. Pain, self-medication to withstand physical discomforts as well as accidents at work can be interpreted as consequences of the working conditions to which they are exposed. In this respect, national and international studies ensure that recyclable material collectors are at high risk of physical illness, mainly related to pain, musculoskeletal disorders, chronic diseases and infectious diseases caused by exposure to biological agents (fungi, bacteria and industrial accidents). These damages are directly related to the precarious living and working conditions of this population,¹⁷⁻¹⁹ in agreement with the findings of this study.

The discussion about the self-care developed daily by the workers is important. Research carried out with recyclable material collectors accused the trivialization of the frequent work accidents, as well as the non-adherence to the personal protective equipment. The authors weigh in that the collectors are more worried about their own survival and their family than on the actual working conditions to which they are subjected.⁸

People who work with solid waste are vulnerable to occupational hazards, which thus require actions in favor of their health and protection.^{10,14,17,20} The nursing action performed with the workers of this study sought to strengthen self-care in the face of the existing working conditions, aiming at safe work.

The care practice model adopted in this research prioritized that the participants themselves construct, through speech and listening, initiatives and pacts for the improvement of working conditions and the reduction of overload, from the nurse's mediation. This idea is in line with other authors, according to whom the educational action of nursing and other professionals among recyclable material collectors should be based on valuing the potential of the group itself, in order to make it protagonist of the process.³

This corroborates the validity of the nursing care model based on the creation of spaces of workers' speech and listening, in which they can discuss their working conditions, consider possible measures to improve them and establish pacts among peers. The concretization of these spaces can contribute to the optimization of the subjects' governance over their

own work process and to the strengthening of the group as a transforming agent. Therefore, the role of the nurse in the work environment relies in the diagnosis of the social determinants of health and in the mediation of these spaces, a movement that proved fruitful in this study.

It is worth emphasizing the applicability of the methodological framework of the CCR for the development of this action, through the convergence group tool. There is deep interest in new ways of interpreting reality in scientific research in health, articulated to nursing actions, which value new ways of thinking and acting, based on a study design.

Given this demand, CCR is oriented to the humanistic commitment of the researcher to simultaneously investigate and operate the health care practice from the perspectives of the individuals involved in the research context. Thus, the CCR differs from other types of research, since it proposes the development of technical-scientific knowledge to minimize problems and introduce innovations and changes in care contexts, thus requiring the researcher's immersion in practice.¹¹

Therefore, the anchoring of this study in the CCR was crucial for the development of a research articulated to a nursing practice. It is important to emphasize that the professional practice of nurses is not only related to biomedical determinants of health and illness, nor should it be confined to the institutionalized spaces of clinical care. In addition to these scopes, the professional work of nurses must be focused on the various situations that limit the full experience of individuals, which restrict their quality of life and that hold their possibilities of developing autonomy, protagonism and freedom. The results of this study offer contributions to the practice in the sense that they present a path to educational and assistance action for vulnerable populations. Thus, it presents contributions to one of the several challenges encountered by nursing in the field of public health.

This study had as limitation the little availability of time of the participants for the development of the investigative and assistance practices due to their demand of tasks. However, the obtained results are valid not to establish definitive answers and problem-solving models to complex problems, but with the perspective of proposing possibilities of research and assistance action for the field of nursing. Further studies are needed to propose, above all, action strategies and care practices to this group, which may give voice to workers in proposing measures that help to improve their living and working conditions.

FINAL CONSIDERATIONS

The associated recyclable material collectors perceived their work conditions aggravated by a set of elements in the scope of work organization, represented by the disagreements

in the process of communication and collaboration, added to the rotation of activities and labor overload. Worsening working conditions culminated in physical discomforts and occupational hazards. Participatory nursing assistance made possible the discussion of working conditions and the establishment of pacts by female workers. It can be concluded that complex problems that involve work as a social determinant of health can be mediated by the nurse through participatory tools, in which the collective work can dialogue and be a partner in the challenge of building safe work.

REFERENCES

1. Dejours C. A loucura do trabalho: estudo de psicopatologia do trabalho. 6ª ed. São Paulo: Cortez; 2015.
2. Antunes R. A sociedade dos adoecimentos no trabalho. *Serv Saúde Soc.* 2015[cited 2017 Apr 17];123:407-27. Available from: <http://www.scielo.br/pdf/sssoc/n123/0101-6628-sssoc-123-0407.pdf>
3. Fontana RT, Riechel B, Freitas CW, Freitas N. A saúde do trabalhador da reciclagem do resíduo urbano. *Vigil Sanit Debate.* 2015[cited 2017 Apr 17];3(2):29-35. Available from: <https://visaemdebate.incqs.fiocruz.br/index.php/visaemdebate/article/view/292/216>
4. Blanch JM. Condiciones de trabajo. In: Blanch JM, Espuny MJ, Gala C, Martín A, editors. *Teoría de las relaciones laborales: fundamentos.* Barcelona: Editorial UOC; 2003. p.42-4.
5. Jesus MCP, Santos SMR, Abdalla JGF, Jesus PBR, Alves MJM, Teixeira N, et al. An assessment of the quality of life of recyclable material collectors. *Rev Eletrônica Enferm.* 2012[cited 2017 Apr 17];14(2):277-85. Available from: <https://revistas.ufg.br/fen/article/view/15259/11623>
6. Binion E, Gutberlet J. The effects of handling solid waste on the wellbeing of informal and organized recyclers: a review of the literature. *Int J Occup Environ Health.* 2012 Jan-Mar [cited 2017 Apr 17];18(1):43-52. Available from: <https://www.tandfonline.com/doi/abs/10.1179/1077352512Z.0000000011?journalCode=yjoh20>
7. Coelho APF, Beck CLC, Fernandes MNS, Freitas NQ, Prestes FC, Tonel JZ. Women waste pickers: living conditions, work, and health. *Rev Gaúcha Enferm.* 2016[cited 2017 Apr 17];37(3):e57321. Available from: http://www.scielo.br/pdf/rgenf/v37n3/en_0102-6933-rngen-1983-144720160357321.pdf
8. Galdino SJ, Malysz ST, Martins CH. As condições de trabalho dos catadores de materiais recicláveis em associação de Mamborê-PR. *NEMO.* 2015[cited 2017 Apr 17];7(2):165-83. Available from: <http://periodicos.uem.br/ojs/index.php/Percurso/article/view/28168/15745>
9. Martins ACS, Domínguez AGD, Cruvinel VRN, Araújo WN. Perfil das condições de vida, saúde e trabalho de catadores de resíduos sólidos da Associação Recicle a Vida em Ceilândia-DF. *Participação.* 2016[cited 2017 Apr 17];28:43-50. Available from: <http://periodicos.unb.br/index.php/participacao/article/view/16049/13245>
10. Coelho APF, Beck CLC. Production about the health of the gatherer of recyclable materials: a study of trends. *J Nurs UFPE on line.* 2016[cited 2017 Apr 17];10(7):2747-55. Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/11336/13039>
11. Trentini M, Paim L, Silva DMGV. Pesquisa Convergente Assistencial - PCA: delineamento provocador de mudanças nas práticas de saúde. Porto Alegre: Moriá; 2014.
12. Trentini M, Gonçalves LT. Pequenos grupos: um método no desenvolvimento de tecnologias na enfermagem. *Texto Contexto Enferm.* 2000[cited 2017 Apr 17];9(1):63-78. Available from: http://www.scielo.br/scielo.php?script=sci_nlinks&ref=000110&pid=S0104-070200700020000300008&lng=pt

13. Ghizoni LD, Mendes AMB. Dispositivos para uma escuta clínica do sofrimento no trabalho dos catadores de materiais recicláveis. *Contextos Clínic*. 2014[cited 2017 Apr 17];7(1):15-26. Available from: <http://pepsic.bvsalud.org/pdf/cclin/v7n1/v7n1a03.pdf>
 14. Galon T, Marziale MHP. Condições de trabalho e saúde de catadores de materiais recicláveis na América Latina: uma revisão de escopo. In: Pereira BC, Goes FL. *Catadores de Materiais Recicláveis: um encontro nacional*. Rio de Janeiro: Ipea; 2016.
 15. Rolim RS, Teixeira KMD, Fernandes RAU. "Uns valorizam, outros discriminam": família e sociedade na percepção dos catadores de materiais recicláveis. *Oikos*. 2015[cited 2017 Apr 17];26(1):205-24. Available from: <http://www.seer.ufv.br/seer/oikos/index.php/httpwwwseerufvbrseeroikos/article/view/211/198>
 16. Gutberlet J, Baeder AM, Pontuschka NN, Felipone SMN, Santos TLF. Participatory Research Revealing the Work and Occupational Health Hazards of Cooperative Recyclers in Brazil. *Int J Environ Res Public Health*. 2013[cited 2017 Apr 17];10:4607-27. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3823336/pdf/ijerph-10-04607.pdf>
 17. Coelho APF, Beck CLC, Silva RM. Health conditions and illness risk of recyclable material collectors: an integrative review. *Ciênc Cuid Saúde*. 2018[cited 2017 Apr 17];17(1). Available from: <http://dx.doi.org/10.4025/ciencucuidsaude.v17i1.37464>
 18. Ziaei M, Choobineh A, Abdoli-Eramaki M, Ghaem H. Individual, physical, and organizational risk factors for musculoskeletal disorders among municipality solid waste collectors in Shiraz, Iran. *Ind Health*. 2018[cited 2017 Apr 17];3. Available from: https://www.jstage.jst.go.jp/article/indhealth/advpub/0/advpub_2018-0011/_pdf/-char/en
 19. Madsen AM, Alwan T, Ørberg A, Uhrbrand K, Jørgensen MB. Waste Workers' Exposure to Airborne Fungal and Bacterial Species in the Truck Cab and During Waste Collection. *Ann Occup Hyg*. 2016[cited 2017 Apr 17];60(6):651-68. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4915520/pdf/mew021.pdf>
 20. Ravindra K, Kaur K, Mor S. Occupational exposure to the municipal solid waste workers in Chandigarh, India. *Waste Manag Res*. 2016[cited 2017 Apr 17];34(11):1192-5. Available from: <http://journals.sagepub.com/doi/pdf/10.1177/0734242X16665913>
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