

Workload of recyclable material collectors: a proposal for nursing care



Cargas de trabalho de catadoras de materiais recicláveis: proposta para o cuidado de enfermagem

Cargas de trabajo de recolectoras de materiales reciclables: propuesta para el cuidado de enfermería

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ABSTRACT

Objectives: To describe the perception of recyclable material collectors on their daily workloads; to present a proposal of nursing care towards the minimization of the effects of these workloads on the well-being of the collectors.

Method: Qualitative, convergent-care research with 11 recyclable material collectors from a Brazilian recycling association. Data production involved participant observation, semi-structured interviews and convergence groups from April to June 2015. The analysis followed the steps: apprehension, synthesis, theorization, transference.

Results: Physical workloads were associated with noise, exposure to chemical and biological waste, unpleasant thermal sensation, floods, weight and repetitive movements. Psychic workloads were represented by worries and emotional exhaustion. The appreciation of the participants' reality and the dialogue were paramount to trigger the assistance action.

Conclusion: The intense workloads have physical and psychic repercussions; however, it is possible to minimize them through nursing actions.

Keywords: Nursing. Occupational health. Workload. Solid waste segregators. Qualitative research. Community-based participatory research.

RESUMO

Objetivos: Descrever a percepção de catadoras de materiais recicláveis sobre as cargas de trabalho em seu cotidiano laboral; apresentar uma proposta de enfermagem em direção à minimização dos efeitos destas cargas sobre o bem-estar das catadoras.

Método: Estudo qualitativo, convergente-assistencial, com 11 catadoras de uma associação de reciclagem brasileira. A produção de dados envolveu observação participante, entrevistas semiestruturadas e grupos de convergência de abril a junho de 2015. A análise seguiu os passos: apreensão, síntese, teorização, transferência.

Resultados: Cargas físicas foram associadas a ruídos, exposição a resíduo químico e biológico, sensação térmica desagradável, inundações, peso e movimentos repetitivos. Cargas psíquicas foram representadas pelas preocupações e desgaste emocional. A valorização da realidade das participantes e o diálogo foram fundamentais para deflagrar a ação assistencial.

Conclusão: As intensas cargas de trabalho repercutem em âmbito físico e psíquico; entretanto, é possível minimizá-las por meio de ações de enfermagem.

Palavras-chave: Enfermagem. Saúde do trabalhador. Carga de trabalho. Catadores. Pesquisa qualitativa. Pesquisa participativa baseada na comunidade.

RESUMEN

Objetivos: Describir la percepción de recolectoras de materiales reciclables sobre las cargas de trabajo en su cotidiano laboral; presentar una propuesta de enfermería hacia la minimización de los efectos de estas cargas sobre el bienestar de las recolectoras.

Método: Estudio cualitativo, convergente-asistencial, con 11 recolectoras de una asociación de reciclaje brasileña. La producción de datos involucró observación participante, entrevistas semiestruturadas y grupos de convergencia de abril a junio de 2015. El análisis siguió los pasos: apreensión, síntesis, teorización, transferencia.

Resultados: Las cargas físicas se asociaron a ruidos, exposición a residuo químico y biológico, sensación térmica desagradable, inundaciones, peso y movimientos repetitivos. Las cargas psíquicas fueron representadas por las preocupaciones y el desgaste emocional. La valorización de la realidad de las participantes y el diálogo fueron fundamentales para desencadenar la acción asistencial.

Conclusión: Las intensas cargas de trabajo repercuten en el ámbito físico y psíquico; es posible minimizarlas por medio de acciones de enfermería.

Palabras clave: Enfermería. Salud laboral. Carga de trabajo. Segregadores de residuos sólidos. Investigación cualitativa. Investigación participativa basada en la comunidad.

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■ INTRODUCTION

Recyclable material collectors are workers whose function is to collect, separate, transport, package, and sometimes, appropriate recyclable refuse for reuse or recycling⁽¹⁾. Estimates indicate that nearly 15 million people work in the selection of recyclable materials, performing an important service for the cities in which they live⁽²⁾. In Brazil, approximately one million people perform this task, a profession which, in most cases, is informal and hazardous, possibly leading to accidents, sickness and exploitation⁽³⁾. These workers live under constant risk to their physical and psychic health, such as exposition to chemical and infectious agents, musculoskeletal damage, mechanical traumas, emotional vulnerability and environmental contamination⁽²⁾.

The daily lives of the recyclable material collectors is exhaustive, including workloads defined as “the efforts developed as to attend to the requirements of the tasks”⁽⁴⁾. The physical load is a result of the relation between work and the workers’ physical body, while the cognitive load is a result of cognitive or mental efforts mobilized during labor. Finally, psychic loads are triggered by psychic suffering, be it started by or made worse by the organization of work⁽⁴⁻⁵⁾. These three modalities relate to one another in ways such that overload in one sphere will manifest as overload in the others⁽⁴⁾.

National and international literature show that recyclable material collectors will oftentimes be a population with a high prevalence of non-transmissible diseases and low access to health services⁽⁶⁾. This is related to their precarious life and work conditions, as they relate to environmental, operational and social factors that culminate in work-related suffering and diseases⁽⁷⁻⁸⁾. This leads one to understand that different workloads can interact, thus impacting the lives of these individuals. The way in which nursing professionals understand and act when caring for these workers, considering workloads, can help them to optimize their work-related health.

It stands out that, although there are evidences indicating how vulnerable the health of recyclable material collectors is⁽²⁾, participative studies capable of measuring the movement and health promotion of these subjects have been lacking, especially in the nursing field⁽⁷⁾. Considering this, discussions about the health experiences and diseases of the recyclable material collectors are paramount, especially through qualitative studies⁽²⁾ and the use of participative methodologies capable of helping individuals to have an active role in the promotion of their own health.

Therefore, considering the workload of recyclable material collectors as one of the determinants of their heal-

th-disease process and gathering knowledge about its aspects and the different ways to deal with them is especially relevant for the field of nursing. As a result, this study attempted to answer the following questions: “How do recyclable material collectors see their daily workload?” and “Is it possible to minimize the effects of the workload on the well-being of the recyclable material collectors through nursing work?” Considerations about these questions led to the creation of this study, which aimed at: knowing the perception of recyclable material collectors regarding their daily workloads; and proposing nursing actions that could minimize the effects of such workload in the well-being of the recyclable material collectors.

■ METHOD

Qualitative research, based on the methodological references of the Convergent Care Research (CCR), a participative model that prescribes the conduction of investigative actions concomitant to practices of care, in the same physical and temporal space, whose convergence results in improvements to the health of participants⁽⁹⁾. The research was conducted in a recycling association located in the South of Brazil, as part of a master’s degree dissertation⁽¹⁰⁾.

The CCR has three stages: Conception, Instrumentation, Perscrutation and Analysis. In the Conception stage, the research proposal is delineated together with the participants, based on the needs of the setting of the intervention, a movement that requires participation⁽⁹⁾. The participative research proposal was the result of discussions on the bond between the participants who lived in the setting and the researchers, who were in the association due to previous researches and actions aimed at caring for the health of the participants. The CCR proposal was articulated with the participation of the recyclable material collectors, according to the needs that emerged from the research field.

During the Instrumentalization stage, the setting, the criteria to select participants and the instruments are defined, so that research data and assistance interventions can be determined⁽⁹⁾. Regarding the setting, the association had a warehouse where the recyclable material was received, separated and compacted in bales, to be sold later. In addition, two trucks were used, by the municipal government, in the collection of recyclable materials. This study took place in the recycling warehouse, which included: two triage tables, in which workers separated recycled materials; two compactors to press the materials into bales to be sold later; one paper shredder; space to store recyclable materials, which workers called “cages”; and space to store bales, with a forklift to elevate and store them. There

were also a toilet, an office and a kitchen for the workers to use. One of the associated workers took upon herself, simultaneously, the role of collector and coordinator. All of them had a uniform made out of a resistant fabric, boots and rubber gloves, things which were collective property and made available to all.

The participants of the study were all women recyclable material collectors of this association, a total of 11 workers. Data production took place from April to June 2015. It was conducted through participant non-systematic observation, semi-structured interviews and convergence groups.

The Perscrutation is the moment in which the different scientific investigation techniques and care practices are articulated, to make the research and assistance data converge and operationalize it⁽⁹⁾. In this stage, at first, participant observation took place in the recycling warehouse for eight days, to a total of 36 hours of observation. The researcher followed the activities of the participants in all stages of recycling (reception of the material brought by the trucks, separation of recyclable materials on the tables, shredding of the paper, pressing of the recyclables into bales). To form the bond required for the research and (especially) the care activities to be carried out, the researcher performed various tasks with the workers, such as separating and carrying recyclable materials. A field diary with notes was elaborated, many of which integrated the corpus of the analysis.

Semi-structured interviews were conducted after observation was over, in the association's office, lasting, on average, 20 minutes. The interviews were guided by a semi-structured script, including the following topics: perception of the workers about their daily work lives; description of their main tasks and their feelings while they carried them out; perception of the aspects that make their work easier or harder; perceptions on their health and life working with recycling.

After interviews with the participants were over, convergence groups were carried out, allowing for the research to be produced by the group, simultaneously to the intervention in the same physical and temporal space, focusing on health education⁽⁹⁾. The convergence group had the role of kickstarting the practice of assistance. Two meetings took place, lasting approximately one hour each.

The groups were conducted during lunch hour, in the place of choosing of the participants: in the kitchen, sitting at the table; and on the courtyard, sitting in a circle. In the first meeting, the objective of the study was recalled and the participants discussed about their workload. They were encouraged to share their experiences and perception with the group.

In the second one, the educational nursing action was systematized. The researcher elaborated a poster illustrating the main elements related to the workload increase (selected from the evidences that emerged from observation and interviews). The discussion had as its starting point the identification of what the poster was about and its translation into reality. Considering the reality they shared, the workers were encouraged to elaborate strategies to minimize workloads. These strategies were complemented by the researcher, who included nursing guidance so that the individual actions of health protection would be strengthened.

Image 1 shows the poster used for the assistance activity. The images inside the speech bubble refer to the main elements regarding the increase of physical, cognitive and psychic loads. From left to right, can be identified: broken glass; chemical products; bales, referring to carrying weight; sun, referring to the hot environment; a human figure with an expression showing stress or anger; a rainy cloud, referring to floods inside the warehouse. The dynamic of the action of care was to help the recyclable material collectors to discuss their working conditions having the poster as a starting point.

The interviews and the convergence group meetings were recorded in audio, after participants agreed to that and signed a Free and Informed Consent Form. Later, the audio was transcribed, for analysis. The workers were identified by the letter W (first letter of the word "worker") followed by a number corresponding to the order in which their interview was conducted (W1, W2...). Additionally, statements are marked with the letter "I" when they come from the interview, or the letters "CG" when they come from the convergence group. The fragments of the field journal, in turn, have been marked with the letters "ON" (observation notes), followed by a date that corresponds to the day in which the observation was carried out.

The last stage of the CCR, the Analysis, is divided in the following stages: Apprehension (exhaustive reading and appropriation of the material), Synthesis (codification and categorization of results), Theorization (attribution of meaning considering theoretical bases) and Transference (approximation and projection of the results to other realities)⁽⁹⁾.

The research was formally authorized by the recycling association and approved by the Ethics Committee, under protocol 932.797, in January 12, 2015. All participants signed the Free and Informed Consent Form. The research followed the ethical precepts for researches with human beings established in Resolution 466/2012 from the National Council of Health.

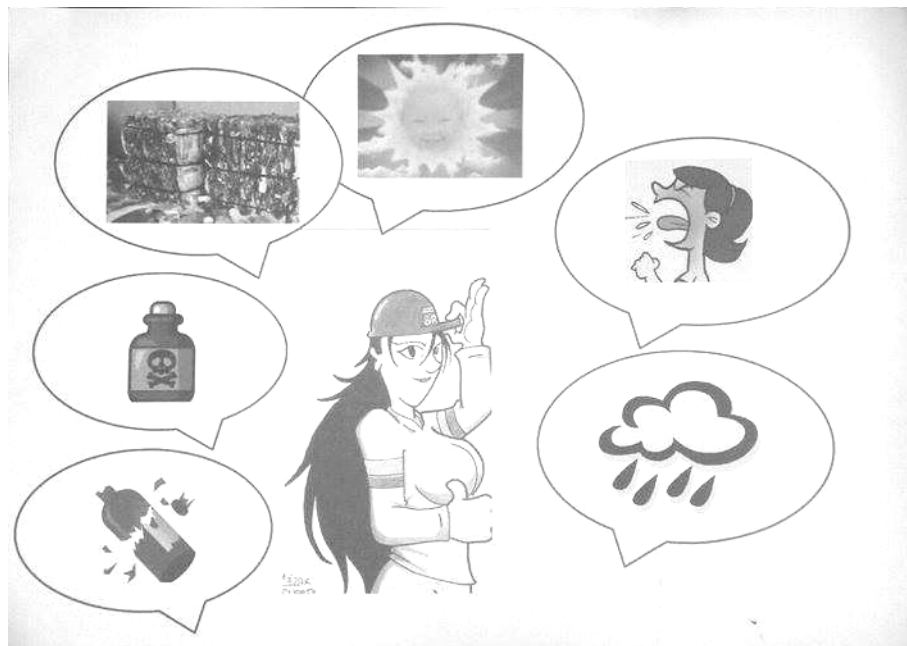


Image 1 - Poster used for the assistance activity conducted with the recyclable material collectors. Brazil, 2018.

Source: Personal files of the authors.

RESULTS

The workers were between 22 and 55 years old. Their educational level was varied, from incomplete elementary school (which was the case of most workers) to incomplete higher education. The collectors worked eight hours a day, to a total of 40 hours a week. The categories that emerged from the analysis are presented below.

Physical workload: interactions between environment and the body of the worker

The collectors indicated a set of elements linked to the increase in their physical workload. These elements mostly relate to the environment and interact with the body of the workers, leading to exhaustion or representing health hazards. Some of the elements mentioned were: constant noise in the warehouse, exposure to chemical and biological residues, in addition to organic waste decomposition:

The noise of the machines, sometimes, bothers me (W11, CG).

[...] A piece of glass that was contaminated, I couldn't stand the smell these days. It's awful. [...] It said "detergent", but it was something else. [...] Rat urine, you can smell from a distance when there's those papers smelling like rat urine, and of the poison people use. [...] Coffee sludge, maté tea,

toilet paper, people put it in the middle of other paper. [...] We don't like that (W5, CG).

Participants have also highlighted the heat in the warehouse in days with high temperature, due to precarious infrastructure and the accumulation of bags of refuse, that fill the environment and make air circulation more difficult:

[...] It's smothering. The girls feel it a lot, we feel smothered in the heat. When you realize it's full of material [...] and we stay there. And then, for instance, if there's any accident and you have to run, you can't get out (W6, I).

Still on the subject of climate and the precarious infrastructure, the workers highlighted the floods in rainy periods of the year:

[...] The rainy season. It rains here. There's a lot of leaks. [...] What if there's a bare wire! It's dangerous. Especially with this roof, that leaks water. It's really dangerous (W10, I).

In addition to extrinsic elements, some elements that are intrinsic to the work with recyclable materials have also been pointed out as influences in the workload. Among them, the participants highlighted the manipulation of heavy bales and the frequency of repetitive movements, as the statements below demonstrate.

[...] It's heavy work in the compactors, the bales too. And there's movement there the whole day. At night we can't stand the pain [...] (W9, I).

[...] It's exhausting work. The workers also have to squat and get up constantly and repeat these movements several times, due to the fact that the material is compacted many times, until, little by little, the bale is formed. I also felt the effect of inhaling the particles that originate from cardboard [...] (ON, 04/12/2015)

The juxtaposition of elements that increase workload and intense work rhythms, with significant physical demands, culminate in work overload, a malady all workers stated to have:

Nothing makes it [the work] easy. It's too heavy, too tiring (W2, I).

It's heavy work, just like men's work. The girls feel it a lot, we feel it a lot. It's a demanding job, we get tired. We reach a certain age, working and working, and we do not have the same stamina of someone who just started anymore. So this is how it is, people don't have the same stamina [...] (W6, I).

Issues regarding work overload have also been made clear by participant observations, as shown by extracts from the field journal:

[...] I felt that, as much material as they separated and brought inside, the aspect of hoarded refuse in front of the association remained the same, as if little had changed from the moment I arrived on. At a certain moment, I started to worry and believe that it would not be possible to finish before 6 p.m. I was afraid it would be necessary to work late [...] (ON, 04/28/2015).

As the recyclable material collectors identified and discussed the elements that related to their physical work load, experiences related to the way in which these elements and work overload affected the body of the workers throughout time were brought forth. Pain and respiratory problems were the most commonly mentioned:

[...] A lot, it hurts here [pointing to her arms] at night, when I stop. When I'm working I don't feel anything. At night, when I go to bed, I feel it, I think the blood circulates there. It's terrible [...] (W9, I).

[...] The glasses are too heavy, my back hurts. [...] It's at least thirty kilos give or take, on your back. It's bad. [...] [named a colleague] has "chest troubles" too. This is how we're feeling. And for those who entered now, it will build up too, to the same thing (W6, I).

"I can't stop thinking about work": the influence of the psychic overload.

Regarding the psychic work overload, collectors highlighted their frustrations and emotional exhaustion regarding the problems with the association, mainly financial problems, work overload and interpersonal problems, as the statements indicate:

[...] I can't get this place out of my head, I'm thinking about work all the time. I think of all that's accumulating while I'm not here. [...] I'm very tired. [...] I, right now, wanted three days to stay at home, but not to stay awake, that someone gave me "a thing" and I slept, so that body and mind could relax, because I can't. I can't stop thinking about work [...] (W11, CG).

The body, when we're working, doesn't hurt, only after we're finished. But the mind keeps working, just like the machines (W8, CG).

[...] We have a really hard time. There's too many chefs, too little cooks. Everyone wants to give orders, make decisions, but when there's trouble, only one goes to the front lines. [...] You can't, at this point, abandon the boat, get out of the way. You have to stay together and strong. We can't only think about ourselves. Or the group unites now and we get strong enough to fight, or the group will dismantle for once [...] (W11, CG).

Participants stated that the juxtaposition of physical and psychic workloads, oftentimes, prejudiced family and relaxing moments. Also, some mentioned that their psychic load caused them more problems than the physical one, as the statements below demonstrate:

I don't even think about housework. I used to think about it a lot, all the time, but not anymore. [...] The girls told me to forget these things. [...] We're always like, work, work and work, and I have to be present at home, especially for my daughter [...] (W7, I).

[...] This [work] gets me rolling in the bed. My head gets tired, hurts. [...] This is also crazy mental and physical exhaustion. Because I get nervous in the head, I get tense,

to the point that my arms hurt, my muscles hurt. I prefer to spend the whole day working my arms off here than to stress my head [...] (W11, CG).

It should be highlighted that the set of data produced with the help of the collectors did not indicate that they are under expressive influences from cognitive workloads. The physical and psychic ones were those that stood out as the most intense in their daily work.

Considering workloads and how to minimize them: nursing proposal from the perspective of the converging-care approach

The practice of nursing care in the convergence group also worked as a mediation of the process of identifying measures and confronting the workloads, activities carried out by the workers themselves. It was considered that the participants were the ones who should create strategies, which would be the product of the process of reflection to be born from the analysis of their own reality.

Thus, in the second convergence group, there was a participative process of negotiating routine actions capable of reducing the workload. The role of the researcher was that of mediator, that is, they had to raise questions and propose solutions and, especially, offer nursing guidance, making available to the participants information and clarifications that were important for the collective construction of the strategies. Table 1 shows a synthesis of the data resulting from this activity.

Finally, it stands out that the activities developed with the collectors were positively evaluated by them, showing themselves to be pleasurable and meaningful. One of the participants stated, still during the semi-structured review:

I [wanted] to say thank you for what you've been doing, 'cause when you come, you manage to show the things we're doing. [...] This for us (is) a form of recognition too. [...] And this is helping my colleagues too. Maybe they don't know how to express these things, but the things we learn with you, when you come, we practice (W11, I).

Table 1 - Diseases and elements for potential diseases at work and respective nursing guidance and strategies targeted at collective and self-care. Brazil, 2018.

Diseases and elements for potential diseases at work		Nursing guidance and strategies
Physical workload	Musculoskeletal pain and repetitive movements	- Demonstration of the correct way to squat (knees bent) and the incorrect one (flexing the column); - Demonstration of stretching exercises and the correct moments to do them (before and after work, at home at night), as to possibly diminish muscular distress resulting from physical efforts.
	Rain and humidity in the warehouse	- To use of coats, especially as transitioning between environments with different temperatures (internal and external warehouse environment); - To use of rubber boots made available or other types of sealed footwear at work.
	Broken glass, chemical and biological residues	- To use of the Individual Safety Equipment made available, especially the gloves. - To use of gloves and masks at all times.
	Weight	- To make better use of the forklift (oftentimes underused); - To work as a collective: never let the colleague move something too heavy by herself and ask for help, when needed.
	Hot days	- Water consumption: to have fresh water available in the warehouse for continuous use.
Psychic workload		- Revive team meetings: to maintain the routine of meetings, valuing the debate on the problems and formation of pacts; - Valuing the communication and collective work.

Source: the authors.

■ DISCUSSION

Results show a set of elements that lead to an increase in the workload of recyclable material collectors, resulting in physical and psychic symptoms. A qualitative Brazilian study that researched female collectors evidenced that their health was influenced by the precariousness, informality and demands of their work⁽⁸⁾. Such results are similar to those found in this study, showing that workloads are articulated to labor conditions.

Physical workload is mainly associated to the set of physical efforts an individual performs to transform the object of their work. It assumes the characteristics of the work environment, constantly interacting with the worker⁽¹¹⁾. Therefore, elements such as exposure to physical, chemical, biological and ergonomic agents, as in the statements of the participants, indicate an increase in physical workload.

A study conducted with Brazilian recyclable material collectors highlighted the presence of chemical agents (from chemical residues of packages); biological agents (represented by the contact with fungi and bacteria from contaminated packages, food leftover in the middle of recyclable materials and the presence of animals such as rats and cockroaches); physical agents (due to insufficient illumination and ventilation, lack of covering or damaged roof and water leakage); and ergonomic agents (inadequate posture due to the lack of infrastructure during collection, the separation and processing of materials)⁽¹²⁾. Such data converge, in many aspects, with those found by this study, which indicate that these realities are similar.

An international literature review about the effects of recyclable material collection on the well-being of workers highlighted the exposure to chemical and biological agents, which are associated to the possibility of poisoning, dermatitis, burns, respiratory and infectious diseases, as well as parasitosis. This study also pointed out the risks of ergonomic and musculoskeletal lesions, such as sprains, pain in the muscles, back, shoulders and neck, disc herniation, wearing of tendons and arthritis. The authors highlighted the importance of these findings when it comes to the health of collectors and its articulation to their emotional well-being⁽²⁾.

In this sense, the effort made by workers to attend to all the demands imposed by their jobs makes it so all types of workload are increased, which may culminate in the appearance of physical, psychic or emotional diseases⁽¹³⁾. Therefore, one must consider the set of elements mentioned by the collectors as potential risks for their health, and that diseases resulting from work can affect many different aspects of their being.

Results showed that the workers recognize some of the impact of their work in their bodies, and that is made clear, especially, by the way in which respiratory problems, and especially, musculoskeletal pains, have become part of their lives. The recyclable material collectors work may be related to the prevalence of respiratory, gastrointestinal and skin complaints. There are evidences linking recyclable material collectors work and damages to the health of this population⁽¹⁴⁾. Additionally, a research among Asian recyclable material collectors highlighted the risks of lesion (especially in the shoulders and back), which were made more severe as the age of the workers and the time since they started on the job increased⁽¹⁵⁾. These results are similar to those found in this research.

When workloads are seen as the amount and intensity of efforts put in to answer to the demands of work activities, it can be assumed that workers will, sometimes, use mechanisms or tools to confront or deal with the overload – such as the mechanical actions and the lack of care with the self, which lead to damage or disease⁽¹¹⁾. Authors point out that the collectors are more worried about their survival and that of their families, than with the working conditions they are put through⁽¹⁶⁾. Since the work of the collector is related to the prevalence of imminent damage, the implementation of actions targeted at preventing and protecting these workers in their daily work lives is paramount⁽¹⁷⁾. Therefore, the discussion regarding the actions of self-care carried out daily by these workers is of utmost importance, so that the effectiveness of these actions can be potentialized by educational actions.

Finally, the workers mentioned elements related to their psychic workload. Problems in private life and during sleep stood out, including feelings of constant responsibility when it comes to work problems, which lead to suffering even after the work shift ends.

The psychic workload includes the retention of the energy of psychic drives that derive from the under- or over-use of psychic or psychomotor aptitudes. Such situations, allied to the dissatisfaction of the worker with the task conducted and the impossibility of expressing themselves at work, lead to a process of retention and imprisonment of psychic drive energies (psychic load), leading to diseases⁽⁵⁾.

A research with recyclable material collectors highlighted the frequent feelings of anguish, fear and stress⁽¹⁸⁾. Another study, conducted with Chilean workers, highlighted that the exposition to psychosocial agents at work, agents which lead to anguish and suffering, is related to the psychic health of the worker, and can be associated to the incidence of depressive symptoms. The authors also highlight that women are more vulnerable to the psycho-

social risks at work, which makes them more predisposed to the development of mental pathologies⁽¹⁹⁾.

The psychic workload results from the organization of work, and is also related to its conditions⁽⁵⁾. Therefore, it is relevant to consider that this increase in the psychic workload found among collectors may be a response to the exhaustive and precarious work that is common in these circles.

It should be highlighted that the cognitive workload did not have expressive results in the data generated by the participants. It can be assumed that collection work, as it is mainly manual labor, does not require an excessive mobilization of thought and reason so that daily problems can be solved. The data leads to believe that, considering the problems of excessive work and workload, the physical workload increases (the physical efforts necessary to carry out the manual activities of collecting, compacting and storing the recyclables are increased), as do the psychic workload (anxiety increases, and as a result, so does the mental exhaustion of the workers).

Considering the results of this study, it stands out that nursing activities can mediate an improvement in the labor conditions of workers in this segment. To this end, the nursing professional is a part of a multiprofessional team that can perform interventions for workers who are exposed to risk factors, as to prevent or diminish the number of health problems⁽²⁰⁾.

When conducting these nursing activities, it stands out that the CCR is a methodological approach that allows for an approximation between the nurse and these vulnerable contexts, recovering the link between research and care. In this context, the CCR allows for the construction of investigative projects that eschew purely diagnostic practices, associating nursing research to the professional exercise of the nurse. Therefore, the CCR offers a unique possibility for the construction of knowledge in nursing, as it allows for the nurse to offer immediate returns to the patients, and for the formulation of actions that can impact and transform the lives of people and groups.

■ CONCLUSIONS

This study showed that the workload of the recyclable material collectors was intensified. They related to a set of elements, such as exposure to physical, chemical, biological, organic, ergonomic and psychic agents, all of which contributed to the precariousness of their work and, consequently, for an increase in the efforts daily performed at their work. The work(over)loads impacted in the collectors' bodies and minds, resulting especially in pain, respiratory problems and anxiety.

Listening, valuing the reality of the participants and conducting participative diagnostic, based on the participative action, were paramount to kickstart considerations on the workload and find measures to diminish its effect. To this end, the CCR was a relevant methodological basis for the establishment of a participative research, capable of associating the investigative actions to the practice of care and diminishing the gap between research and care.

It is important to highlight that the semi-structured interviews were short. That was due to the fact that the workers had restricted free time, since their earnings are tied to their production, and therefore, to the time spent working. This may have restricted data production, and thus, is a limitation of the study.

However, the validity of this research is maintained, in spite of the difficulties in its operationalization, since it calls attention to a population that has so far been seldom investigated by nursing researchers. Research and care data presented in this study may aid nurses that work in health care networks whose scope include recyclable material collectors' associations. The experience described here, coupled with the results found, point a promising way towards the development of tools for health education when it concerns these groups, and may lead to improvements in their health conditions.

The replication of new studies is recommended, including multiprofessional articulation and focusing on the promotion of improvements for the work conditions of this population. Considering the gaps and demands that are still unaccounted for in the care of these workers, it stands out that there are still new possibilities of investigation and care within the scope of qualitative researches.

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