

Work risk related to illness and defensive strategies of collectors women's waste recyclable

Risco de adoecimento relacionado ao trabalho e estratégias defensivas de mulheres catadoras de materiais recicláveis

Riesgo de enfermedad relacionado al trabajo y estrategias defensivas de mujeres recolectoras de materiales reciclables

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ABSTRACT

Objective: To investigate the risk of work-related illness in, and the defensive strategies of, women who collect recyclable materials (waste pickers). **Methods:** A qualitative, exploratory and descriptive study, undertaken with seven collectors from a collective in the Brazilian State of Rio Grande do Sul. Data was produced through systematic participant observation, semi-structured interviews and a focus group, from July to August 2013, and was subjected to thematic content analysis. **Results:** The strain that comes from the work may promote the collectors' illness, as it compromises their physical health, psychic integrity and social relationships. The collectors use individual and collective defensive strategies, which aim to minimize the suffering related to labor activity. **Conclusion:** Nurses need to consider the work contexts of workers whom they assist in order to act in the promotion of health and prevention of work-related illness.

Keywords: Occupational Health; Solid Waste Segregators; Working Conditions; Qualitative Research; Nursing.

RESUMO

Objetivo: Compreender o risco de adoecimento relacionado ao trabalho e as estratégias defensivas em mulheres catadoras de materiais recicláveis. **Métodos:** Estudo qualitativo, exploratório-descritivo, realizado com sete catadoras de uma cooperativa do Rio Grande do Sul. Os dados foram produzidos por meio da observação sistemática participante, entrevistas semiestruturadas e grupo focal, entre julho e agosto de 2013, e submetidos à análise temática de conteúdo. **Resultados:** O desgaste oriundo do trabalho pode favorecer o adoecimento das catadoras, pois compromete a saúde física, a integridade psíquica e as relações sociais. As catadoras utilizam estratégias defensivas individuais e coletivas que objetivam minimizar o sofrimento relacionado à atividade laboral. **Conclusão:** O enfermeiro necessita considerar os contextos laborais dos trabalhadores a quem assiste, a fim de atuar na promoção da saúde e prevenção do adoecimento relacionado ao trabalho.

Palavras-chave: Saúde do Trabalhador; Catadores; Condições de Trabalho; Pesquisa Qualitativa; Enfermagem.

RESUMEN

Objetivo: Comprender el riesgo de enfermedad relacionado al trabajo y las estrategias defensivas en mujeres recolectoras de materiales reciclables. **Métodos:** Estudio cualitativo, exploratorio y descriptivo, realizado con siete trabajadoras de una cooperativa de Rio Grande do Sul. Los datos fueron obtenidos por medio de observación sistemática participante, entrevistas semiestructuras y grupo focal, entre julio y agosto de 2013, y sometidos al Análisis Temático de Contenido. **Resultados:** El desgaste debido al trabajo puede favorecer la enfermedad de las recolectoras, puesto que compromete la salud física, la integridad psíquica y las relacionales sociales. Las mujeres utilizan estrategias defensivas individuales y colectivas que objetivan suavizar el sufrimiento relacionado a la actividad laboral. **Conclusión:** El enfermero necesita considerar los contextos laborales de los trabajadores a quien asisten, a fin de actuar en la promoción de salud y prevención de enfermedades relacionadas al trabajo.

Palabras clave: Salud Laboral; Segregadores de Residuos Sólidos; Condiciones de Trabajo; Investigación Cualitativa; Enfermería.

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INTRODUCTION

In Brazil, the effects of globalization occurred before the country reached a mature stage in social rights and policies designed to protect the worker. As a result, factors such as the weakening of labor relations, the intensification of the pace, overload and the requirement for the versatility of the worker have worsened the incidence of illness at work, above all the musculoskeletal disorders, lesions caused by repetitive efforts, and psychic disorders¹.

In this context, in which the worker is exposed to factors linked to illness, one can observe the defensive strategies, defined as mechanisms used unconsciously, individually and collectively, in the face of suffering deriving from the work². The defensive strategies are used as instruments of modification, transformation and - in general - euphemization of the way that the worker perceives and experiences the suffering. These mechanisms, therefore, often represent "escape routes" of the same³.

With these concepts as the starting point, this investigation was undertaken with women who select recyclable materials in a cooperative, who represent a group which is vulnerable to work-related illness. This aspect is confirmed by one study, which related critical health conditions to this group, characterized by a high incidence of noncommunicable diseases and poor utilization of the health services⁴.

It is estimated that, globally, 15 million people work in recycling activities⁵. In Brazil, almost one million workers undertake the work of collecting, separating and commercializing recyclable materials. It is a work activity which is predominantly informal and subject to risks to health, accidents and exploitation. Some of these workers are organized in cooperatives, associations or social enterprises, which can constitute important spaces for social inclusion and development to the extent that they normally represent better working and living conditions⁶.

However, in spite of Brazil having received international recognition due to its levels of recycling and initiatives in terms of the inclusion of the waste pickers⁷, one can ratify the need to improve these workers' health conditions, as their working conditions remain poor and unsafe in the recycling cooperatives. To this end, it is considered essential to study the work environment, as well as the health problems identified by the selectors as related to this work activity⁸.

In this regard, Nursing's commitment, as a human and social practice, to the undertaking of research and actions which aim to reduce social and health inequalities and promote human rights is reasserted. Hence, the undertaking of studies with diverse approaches may bring advances in relation to the knowledge already produced and support its actions in the routine of the health services and in the social spaces⁹.

In the light of the above, this study aimed to investigate the risk of work-related illness among, and the defensive strategies of, women who collect and select recyclable materials (waste pickers).

METHODS

This is a qualitative study, of the exploratory descriptive type, undertaken in a recyclable materials cooperative which is a reference in selective collection in a city in the Brazilian state of Rio Grande do Sul. In the period in which the study was undertaken, the cooperative was staffed by nine women and six men and covered the city through a partnership with the Prefecture. For this, it had two selective collection trucks, as well as its own establishment for the process of selection, compacting and stocking of the material.

The study's inclusion criteria were: to be a woman working in the selection of recyclable materials linked to the cooperative and to have worked there for at least six months in the activity in question. Those female workers who were off work in the period of data production were excluded from the study, resulting in seven women participating in the study. Data production was undertaken through the triangulation of three instruments: systematic participant observation, semistructured interviews, and a focus group (FG).

During the systematic participant observation, the work dynamic and organization were observed in the selection warehouse over approximately 25 hours of insertion in the field. This stage involved the use of an observation script focused on the elements of work-related suffering and illness, and the field diary, and was undertaken during July 2013.

The semistructured interviews were held during July 2013, and had a mean duration of 25 minutes. The selectors were identified, in the instruments, by the letter "W" ("Worker") followed by the sequential number in which they were filled out (therefore - W1, W2, W3 and so on). Besides questions characterizing the participants, the interview script contained questions which encouraged the workers to discuss their experiences and feelings in relation to the labor activity which they carry out.

In relation to the FG, three sessions were held, with a mean duration of 40 minutes each, in the kitchen of the selection warehouse, with five women in the first and second sessions, and six in the third, in August 2013. The nonparticipation of all the female workers in the FG sessions was due to the external work in the trucks and to the administrative activities. The female selectors were identified by pseudonyms chosen by themselves. The FG were led by a moderator and involved the assistance of three research assistants.

In the first session, the researcher undertook the ethical and operational agreements of the sessions. In addition to this, discussion was begun regarding how the female waste pickers perceived their work. In the second session, the selectors' conception regarding the impacts of the work on their health was discussed. In the third session, a summary of the previous sessions was read, and the moderator asked the participants to speak about the strategies which they used to undertake the work.

Both the semistructured interviews and the FG sessions were recorded, with the participants' consent, and were

transcribed in full using a text editor. The data were analyzed using the technique of thematic content analysis, undertaken in three phases: pre-analysis, exploration of the material, and treatment of the data and interpretation¹⁰.

The study met the ethical recommendations currently in place, for the undertaking of studies with human beings. All the participants signed the Terms of Free and Informed Consent, this being read out loud by the researcher with a view to easy understanding on the part of the study participants. The study was submitted for consideration by the local Research Ethics Committee and obtained a favorable opinion to be undertaken, under Certificate of Presentation for Ethical Consideration, number 16195113.9.0000.5346.

RESULTS

The majority of waste pickers were in the age range of 40 years old. In general, they were married and mothers. They had heterogenous educational levels, there being reports of junior high school not being completed, and higher education not being completed. The time since entering this occupation varied from three to 19 years.

Regarding the organization of the work, it was identified, during the systematic participant observation, that the women worked predominantly in the warehouse, undertaking the selection of the material. All of the men worked in the trucks, undertaking the selective collection throughout the city. However, due to the reduced number of men in the service, the women frequently undertook collection as well.

The thematic categories which emerged from the study are presented below, namely: "The dimensions of the risk of falling ill: physical, psychic and social" and "How to face these? Defensive strategies and coping with the work".

The dimensions of the risk of falling ill: physical, psychic and social

The work in the cooperative showed the female recyclers' involvement with a set of elements which expose them to becoming ill. These elements, firstly, were identified in the observation and included the failure to use Personal Protective Equipment (PPE) appropriately, environmental discomforts (principally the cold and humidity in the selection warehouse) and the routine risks of occupational accidents. Some of these elements were mentioned by the female workers:

We get wet [...], you go out there to get something and spend the whole day wet, your clothes dry on your body (Julinha).

[...] Out on the truck, in the drizzle, we spent the whole day with our clothes wet, mid-day comes round [...], and you get changed, and then in the afternoon drizzle starts again, and we get soaked once more, and we are out in the cold [...] (Manoela).

In relation to falling ill physically, the participants mentioned different discomforts and infirmities which are related to the routine effects of the activities in the cooperative. The morbidities which the female workers relate to the work were: labyrinthitis; rheumatism; musculoskeletal and articular pain; arthritis; spinal disc herniation; lower back pain; and episodes of dizziness and fainting.

In addition to this, the risk of psychic and social illness was observed, related to the strain of the interpersonal relationships with their peers. The relationship problems in the cooperative represent an important element of suffering. Routine difficulties in 'getting on with people', and the lack of affinities between some workers triggered negative feelings and the weakening of good working relationships with colleagues.

The account below illustrates this:

[...] We miss a day because of toothache and she [a colleague] "goes on and on at you". Sometimes, I go out of the warehouse to do things. But the others who miss work, she doesn't "go on" at them (Patrícia).

The participants' reports also showed that the work's problems absorb some to such an extent that they had difficulties in letting go of them when they got home. The burden resulting from this routine sometimes ended up interfering in the female worker's social life. The female waste pickers felt that the work took up so much space in their lives that their family relationships were often harmed, as the accounts below evidence:

[...] Sometimes, we dream about this. Everybody dreams about it, we even dream about the truck. I get home saying to myself: "today I will ask my son what good things have happened in his life, what he has done, and what he hasn't done". But the trouble is you go in and forget about it. And soon after that it's time for bed anyway. Sometimes, at the weekend we are even too tired to talk, so tired are we (Manoela).

[...] We "explode". We "explode" at all our colleagues. Sometimes, we "explode" at our husband because of some problem that we can't resolve [...] (Patrícia).

The work undertaken in selecting recyclable materials was wearing and could lead the people who undertook it to a state of exhaustion. This was a data mentioned by all the women in all the phases of the production of the data. The dynamic and organization of the work were "the trigger" of many situations which gave rise to suffering and could lead to illness. Due to this, working in the cooperative was something that the female workers judged to be difficult and possible only for those who "has the strength for it", as the account below shows:

[...] If she doesn't need to, the person will not be here, she will not subject herself to this. It isn't just any person

who "has the strength" for this type of work. It is not the same as working in a shop or in a market [...] (Mônica).

The female waste selectors face physical and psychic strain in exercising their work. An example constantly found in their accounts was handling the bales (recyclable materials compacted in square blocks), a routine activity which required a high level of physical effort on the part of the female workers.

These are 190, 180, 200 kilos... You have to move that bale, everybody together (Manuela).

[...] The only thing I don't like much is pushing the bale, because they are heavy [...] (W4).

The carrying, weighing and storing of the bales was the activity which most caused discomfort to the female workers. Throughout the systematic participant observation, it was observed that after handling the bales the female workers groaned and complained, made movements with their shoulders and upper limbs, which were suggestive of the presence of musculoskeletal pain. As well as this, after these activities, it was perceived that they undertook the remaining tasks with greater difficulty than previously. The female waste pickers also mentioned the physical exhaustion related to the pace of the work and how the same affected the vigor of the body over time.

[...] We spend a lot of time standing up, all day. We only sit down for a few minutes at lunchtime and later, during a coffee break. It is walking to one side, and walking to the other, and carrying something heavy, and lifting something else, it's pretty tough [...] There isn't any time to stop a little (Julinha).

[...] We don't have strength anymore, the drive that that we used to [...] I don't have it anymore [...] (Patrícia).

The exhaustion from the work was not restricted only to the activities undertaken in the selection warehouse, also addressing the work on the trucks and - furthermore - the issue of problems needing to be resolved in the cooperative:

[...] We get up onto and get down from the truck, we go into a building, we have to go up and down the stairs [...], we get tired going up all those stairs, your legs hurt [...]. It is very tiring (Julinha).

[...] What we get paid doesn't cover even a third of what we go through, because of the worry, the stress, because of waking up at three in the morning and lying there thinking "today I mustn't forget, I have to check the truck, today I mustn't forget, I have to see to that problem in the machinery" [...] (W6).

The data in this category evidence that there are elements of the order of the conditions and of the organization of the work, which are linked and which determine the exposure of the women collecting and selecting the recyclable materials to the risk of illness related to the labor activity which they undertook.

How to face these? Defensive strategies and coping with the work

It may be noted that the women developed individual and, above all, collective strategies so as to cope with the suffering and the possibility of becoming ill. One of the strategies relates to the idea of separating personal problems and work problems. For some female workers, this separation was essential in order to undertake the work activities. For others, however, this process was difficult and often inviable.

If the person wants to, the person can separate these. I am getting over a few things which happened last weekend, but I'm here working like normal and who is to say that I have a problem? [...] (Julinha).

[...] It is not that we don't want to, it is that - sometimes - we can't separate these things [...] There is so much, so much pressure, pressure here, pressure at home, that we are unable to separate the two [...] (Mônica).

The denial was present at other points in the female workers' accounts. In relation to the illness experienced daily, the women often demonstrated that they denied it and camouflaged it behind the symbology of the strong and resistant woman - or banalized it as the accounts below show, respectively:

[...] The woman, to get really ill, has to get really ill indeed [...]. The women who work outside, who have a husband, who have a house, who have children [...]. we are the ones here, we are not those 'little women' [who get ill], that doesn't exist anymore [...] (Manoela).

[...] We've actually got used to it [...]. We don't make a fuss, we go and get on with it (Patrícia).

Also in relation to how the female workers react to the different dimensions of illness, it was observed that the same construct a network of collaboration and support in the cooperative. The women recognized the importance of helping each other and seeking to weave, between themselves, relationships of companionship so as to face and overcome the problems and suffering.

The accounts, below, illustrate this:

[...] From the time we have spent together, we know as soon as the person arrives [that they have a problem]. Even if "Julinha" doesn't say so, we know, [...] the way she looks is different from when she is well [...] (Mônica).

[...] It is because we are a family, and we spend more time here than we do at home [...] (Patrícia).

I feel more at ease to discuss issues here than arriving home and talking with my husband. With all of you, if I arrive with a problem, I can come out with it and talk about it (Paula).

DISCUSSION

This study's results indicate the risk of falling ill related to the work activity in the recycling cooperative, and show that the women's health is extremely closely linked to the poor working conditions and is often determined by the exposure to unhealthy situations which promote the worker's physical and emotional strain^{8,11}.

The female waste selectors' exposure to elements such as the weight of the bales, the rigor of the weather and the risks of accidents and illness are related to the strain on the body, the mind, and the subjectivity in the workforce. As a result, the work activity, in the long term, contributes to weakening the worker in relation to both her professional and personal lives.

One can highlight that there are indications that problems at work have an impact on personal life, and vice versa. Regarding this, research has observed the existence of reciprocal influences between family and work life, among both men and women. It has also indicated that physical and mental tiredness related to the work cause weariness and irritability while undertaking tasks within the family, which is also experienced by the women working in the collection and selection of recyclable materials¹².

Besides the physical and psychic aspects, the risk of social illness was also evident, and one of its indications was the strain on the interpersonal relationships at work. The deterioration of the relationships between the peers, resulting from the weakening of the world of work, places the individuals in a position of competitiveness and individualism. This is the result of the nature of the economic system, which pressures the worker to struggle in solitude for her survival⁹. One can perceive, therefore, that the issue of weakening of the work affects not only the subjectivity of the female waste pickers, but also causes impacts on how these structure the relationships between themselves, opening paths for the appearance of social illness.

One can perceive, therefore, the risk of becoming ill related to the work of the female waste picker results from the interaction of a set of structural, work-related, cultural and subjective elements. The physical, psychic and social illnesses are interrelated and articulated, as the elements which precede illness in the universe of work have impacts on the subject as a whole, in her biopsychosocial dimension³.

In relation to the discomforts and harms linked to the excessive weight of the bales, these have already been indicated in other studies of people who work in collecting and selecting recyclable materials^{5,8,13}. One study undertaken with waste pickers who work with small wagons pulled by hand indicated the presence of pain throughout the body (particularly in the back and

limbs) and tiredness, related to a set of elements which include the excess of weight¹³. This reiterates that this is a reality in the work with recyclable materials, in the most different of scenarios, and that the weight may have direct implications for the worker's physical health, representing an important risk for illness related to the musculoskeletal system^{5,8}.

The women mentioned the work on the trucks, which is part of their 'real' work, that is to say, the work which is undertaken atypically in addition to the work assigned to them², as this is, *a priori*, assigned to the men, but that the women undertake according to the cooperative's needs.

One study undertaken in a recyclable materials selection cooperative evidenced the existence of occupational risks and their implications in the workers' health/illness dynamic in the process of collecting waste in residences and commercial establishments. Evidence was provided of an overload of physical effort and its relationship to ergonomic risks; direct exposure to solar radiation and the relationship of this with the physical risk¹⁴. Although the study participants worked with wagons pulled by hand rather than with trucks, the risks resemble each other in the sense that both means of work involve physical burden and exposure to work overload.

One study indicates work overload as one of the principal factors which cause illness. Overload related to the intensification of the work points to the existence of working environments involved in pressure and demands, which culminate in the worsening of the workers' suffering and illness¹⁵. It may therefore be observed that the overload existing among the female waste pickers constitutes a clear risk factor for work-related illness, as it promotes, over time, strain on the body and consequently on the psychic system.

Finally, the female waste pickers listed the defensive strategies used in the face of the suffering and the risk of illness related to the work. Coping with the suffering is necessary if the worker is to be able to re-signify it and transform it into pleasure, bearing in mind the maintenance of her health². In this regard, the separation between the problems of the work and social life appear as a strategy that some female workers use in order to manage and cope with the suffering and the overload of concerns and responsibilities.

One might suppose that the separation between the working life and the family life achieves the role of protecting the woman from the overload and suffering. In the cooperative, the family and home-related problems are denied and, through this dynamic, the female worker seeks to neutralize the suffering. As a result, the denial of illness by waste pickers was indicated by another study¹⁶, which indicates that this defensive strategy is recurrent among these workers.

Elaborating defensive strategies is a way that the female workers find to neutralize the routine illness and to maintain the balance of the psychic system. This balance results from the dynamic between the suffering and the individual and collective struggle against it. Health, therefore, is not related to the absence of suffering, but is the result of the clash against the

destabilizations deriving from the pressures from the work^{2,3}. These struggles may occur through the elaboration of individual and collective defense strategies. The individual strategies, due to being of an inner nature, are limited in their efficacy; while the collective strategies are the result of the cooperation between the workers and, therefore, are able to manage the suffering in a broader and more articulated way³.

In this way, the elaboration of defensive strategies by the female workers achieves the role of minimizing the suffering and, therefore, mitigates the occurrence of work-related illness. It is considered, however, that the negation, banalization and flight from the suffering can sometimes hide the elements of the organization of the work which trigger this suffering, such that the female workers, due to not facing these, may not be able to elaborate strategies genuinely capable of resolving the problems.

Another issue observed in relation to the defensive strategies among the female waste pickers relates to the collective work and its importance in the cohesion and unity among the women. The collective work involves the construction of the social coexistence, of the "living together"; the construction of the social coexistence and of the true personal interaction between the workers is the difference between maintaining the collective work and the existence of a simple group of people with common interests¹⁷.

It may be noted that the collective work is an important tool for coping with the difficulties for the female waste pickers. It triggers the formation of a network of trust among the women, and in this network they can find comprehension and identification between themselves. Furthermore, research with people working in the collection and selection of recyclable materials who work in a landfill site located in a Brazilian state capital evidence that the greater the perception of companionship existing among the workers, the fewer work accidents occurred¹⁸.

The communication and cooperation among the workers are essential elements in constructing effective collective strategies for coping with the suffering and minimizing the risk of becoming ill. On this matter, the work reveals its paradoxical relationship with the worker's health, as, at the same time as it has elements which precede physical, psychic and social illness, it also brings - in the articulation and relationship among the workers themselves - the means for confronting these elements and constructing health and well-being.

The processes of occupational health and illness result from dynamic interactions between the living and work conditions; it is fundamental, therefore, for the individual to appropriate knowledge and information regarding the risks to which she is exposed, so as to cope with them. In this regard, educational actions are fundamental in occupational health, so as to raise the awareness of the individual to recognize the situations which cause risk/danger to her health; in this way, the same can assume the condition of being a protagonist in relation to her health¹⁹.

In view of these considerations, it is considered that Nursing aggregates a body of knowledge and competences which are suited to constructing these intervention actions. The nurse is a

professional capable of promoting education and reflection, and raising awareness, among people regarding the determinants of their life and health; therefore, nursing care geared towards the worker can contribute to the building of processes of "awakening" the individuals to contexts of alienation in the work, a movement which is fundamental if the same are to be protagonists in seeking to live healthily.

Therefore, the contributions brought by this study to the field of nursing may reduce the distance which exists between the nurse and the possibilities for action with the workers, indicating needs to be met.

FINAL CONSIDERATIONS

The female waste pickers present work-related risks of becoming ill, which impact on all the dimensions of their being and of their life. The risk of falling ill is not restricted to the biological body and is not limited to the strain on the female workers' physical structure. Instead of this, there are relationships between the work activity in the health-illness dynamic, and in this network, all of the nodes represent the entirety of the subject who works (the physical and subjective dimension, the psychic structure, and the social life). It follows that the intensity and the organization of the work are articulated to the dynamic of the pleasure and the suffering and of health and illness, representing central elements regarding the risk of illness related to the work activity.

Regarding the defensive strategies, on the other hand, it may be concluded that these achieve the role of "anaesthetizing" the female workers in relation to suffering, distancing them from negative feelings. They do, however, often contribute to their alienation, as through not allowing themselves to fall ill, through fleeing, denying or banalizing the elements which are precursors of illness, they fail to recognize these as such and do not change the organization of their work. The collective work, however, appears as an important instrument of aggregation among the female workers and confers upon them the strength to carry out transformations in the work context.

This study's results need to be thought about in the sense of the knowing and doing in Nursing. The conception of work as a central determinant in the processes of falling ill calls Nursing to broaden its knowledge and its fields of research and care. It falls to the nurse to introduce, in her daily practice (in the direct healthcare, in the research, teaching, management and public policies) actions geared towards the workers which meet their needs for care, thus contributing to promoting health and preventing illness.

It is considered that this study succeeded in covering aspects of the relationship between the work of the woman who collects and selects recyclable materials and her work-related illness. It was able to indicate some implications of the same in their daily life and the fact that the harsh activities of the reality of the person working in this area affect not only the physical body, but the psychic universe and the social relationships of the same with her peers and family.

As a limitation, it is indicated that the researchers had limited time for undertaking the FG, as bringing the female workers together for a meeting necessitated interrupting their collecting and selection activities, which could entail reducing their income. It is reiterated that this study's findings may offer theoretical support for defining health actions and interventions which propose to give a voice to waste pickers and then helping them to understand the harmful aspects of the work, and to strengthen the collective work.

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