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HEALTH CONDITIONS AND ILLNESS RISK OF RECYCLABLE MATERIAL COLLECTORS: AN INTEGRATIVE REVIEW[1]

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ABSTRACT

This study aimed to describe scientific evidence on health conditions and illness risk of recyclable material collectors. It consists of an integrative literature review. Searches were carried out on the Latin American Literature of Health Sciences, PubMed, Scopus and Web of Science databases in January 2017, without time scope. Thirty-four original scientific articles were analyzed. There is evidence related to a set of illnesses common to collectors from different realities, possibly associated with poor living and working conditions. The latter are exacerbated by ignorance of risks on the part of these individuals. Along with this comes precarious access to or little use of health services, and it is assumed that this could mean the worsening of their health. Illness risk relates to occurrence of accidents, anemia, pain, chronic diseases, affections of the gastrointestinal, respiratory and nervous systems, in addition to viral and parasitic infections. It is concluded that collectors' health is subject to losses deriving from poor living and working conditions; illness risk is significant, mainly involving chronic and infectious diseases related to the environment and to difficult access to preventive health.

Keywords: Occupational health. Working conditions. Occupational risks. Vulnerable populations. Waste Pickers..

INTRODUCTION

Waste pickers are workers whose role is to collect, separate, transport, store and, sometimes, appropriate recyclable material for reuse or recycling[1]. It is estimated that, on a global scale, approximately 15 million people work with recycling[2].

In the Brazilian scenario, the National Solid Waste Policy, instituted by Law No 12.305/2010, recognized recyclable waste as a source of income for collectors, stressing the need for their social inclusion and economic emancipation. In addition, Decree No. 7.405/2010 sought to integrate and articulate the actions of the Federal Government aimed at improving the working conditions of recyclable material collectors. However, these workers continue to live in contexts of precariousness and illness, despite policies that recognize their importance in the recycling production chain.

Recyclable material collectors oftentimes work informally and are subject to risk of accidents, illness and exploitation[3]. They have a high incidence of noncommunicable diseases and low access to health services[4]. They are also are exposed to a wide range of health risks, including occupational accidents and a variety of diseases[5], which points to an existing gap between public policies and the reality of these people.

Moreover, they suffer with lack of material goods, as well as social, financial and psychological support[6]. Lack of recognition for their work, prejudice, social and economic exclusion are aggravating factors for the well-being of these workers[8], representing social determinants that influence the health of this population. Authors emphasize the need to discuss these determinants for the elaboration of more specific policies targeting this population, which currently do not exist[7].

Faced with this challenge, the nursing field stands out with its commitment to people's health in all instances of their lives, including at work. Nursing is called upon to broaden its knowledge and its fields of research and care, and it is a nurse's role to introduce in his or her daily practice (in the daily care of people, research, education, management, public policies) actions that meet the health demands of workers.

[1]Article from the Doctoral Thesis titled "Autocuidado de catadores de material reciclável: estudo convergente-assistencial" [Self-Care of Recyclable Material Collectors: A Convergent Care Study], defended in 2018 to the Nursing Graduate Program of the Federal University of Santa Maria (UFSM).

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Through these actions, nursing can boost health promotion and prevention of work-related illness[8].

The objective of this study is to describe scientific evidence on health conditions and illness risk of recyclable material collectors.

METHOD

The present study comprises an integrative literature review structured according to the following steps: research question formulation, search in the literature for studies related to the theme, study categorization, evaluation, discussion and interpretation of results, and synthesis of evidenced knowledge[9]. First, the following review question was defined: "What is the scientific evidence on the health conditions and illness risk of recyclable material collectors?".

The search phase was carried out on the Latin American Literature of Health Sciences (LILACS), PubMed, Scopus and Web of Science databases in January 2017. The following inclusion criteria were considered for the search: original articles (from primary studies) published in Portuguese, English or Spanish, available in electronic format and free of charge, and that answered the review question. There was no time scope.

This study considered as recyclable material collectors all people working with picking, selection or recycling of waste such as scrap metal, paper and cardboard, containers, at either public spaces or cooperatives, as defined by the Brazilian Classification of Occupations. Therefore, researches involving professionals from urban waste collection companies, though called "collectors" by some authors, were not included in this study.

In addition, there was exclusion of items whose sample/participants were composed of other workers besides collectors (such as recycling truck drivers, family members, among others); research conducted with children or adolescents working as pickers; research focused on the environment, rather than people (such as laboratory analysis of dust and waste). These studies were excluded for addressing specific realities, whose evidence is difficult to approach. Duplicate articles were considered only once.

It should also be pointed out that, regarding the "health conditions" and "illness risk" of collectors, not only physical and biological matters were considered, but also phenomena referring to the social determinants of their health. Therefore, articles that dealt with these phenomena were deemed relevant and convergent with the review question.

The search strategy on LILACS included the Portuguese terms "catador", "catadores", "reciclador", "recicladores", "selecionador", "selecionadores" combined with the "saúde", "doença" and "adoecimento" through the boolean operator AND. As for the other databases, the English terms "picker", "waste collector" and "garbage collector" were combined with the terms "health", "disease" and "diseases" using the Boolean operator AND. On the PubMed, Scopus and Web of Science databases, species (human), language (English, Portuguese or Spanish) and document type (article) filters were used.

The search phase consisted of reading the titles and abstracts of all items returned in the primary search. This phase is represented by figure 1

The articles selected for analysis are listed in Chart 1, with their respective identification codes: letter "A", for article, followed by a cardinal number from 1 to 24.

For the categorization phase, relevant data were extracted through two synoptic charts built in a Microsoft Word 2010 text editor. One listed variables referring to article characterization (year and country of publication, research conduction place, methodological design, synthesis of study objectives, data collection/production instruments and classification of level of evidence). The other chart, in turn, displayed a synthesis of main pieces of evidence.

It is worth noting that, to assess strength of evidence, a model that classifies evidence from primary studies in relation to their research questions was used. Thus, four different classifications of levels of evidence were stipulated: treatment/intervention (when the research question focuses on the assessment of a clinical intervention in health); diagnosis (when the research question focuses on the verification of a given phenomenon or exposure); prognosis/etiology (when the research question is intended to infer the etiology or probability of certain results occurring); and meaning (when the research question turns to the understanding of experiences surrounding a disease or the feelings involved)[10].

Classification was done by the researchers, who assessed whether the research questions presented by the studies targeted treatment/intervention, diagnosis, prognosis/etiology or meaning, with each of these classifications having its own classification of evidence, defined by its methodological design[10].

Figure 1 – Flowchart of the sampling phase on the LILACS, PubMed, Scopus and Web of Science databases. Santa Maria, RS, Brazil. 2017.

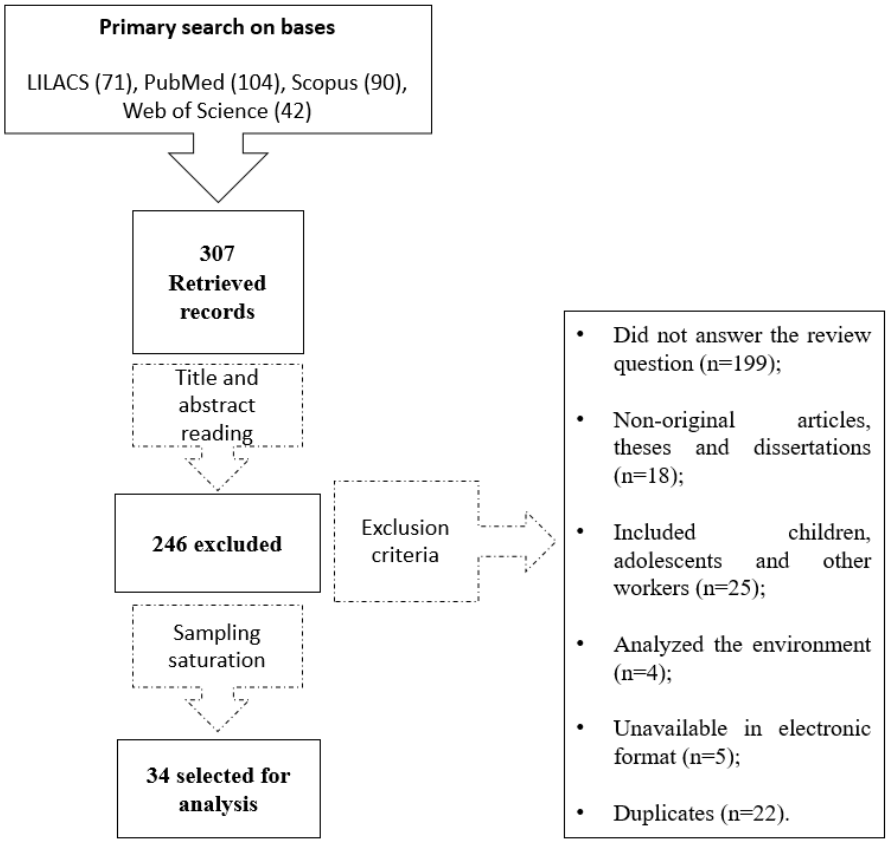

Chart 1 - List of articles selected for analysis, with their respective identification codes. Santa Maria/RS, 2017. (N=34**)**

A1. Bazo ML, Sturion L, Probst VS. Caracterização do reciclador da ONG RRV em Londrina-Paraná. Fisioter Mov. 2011; 34(4):613-20.
A2. Hoefel MG, Carneiro FF, Santos LMP, Gubert MP, Amate EM, Santos W. Acidentes de trabalho e condições de vida de catadores de resíduos sólidos recicláveis no lixão do Distrito Federal. Rev Bras Epidemiol. 2013; 16(3):764-85.
A3. Arantes BO, Borges LO. Catadores de materiais recicláveis: cadeia produtiva e precariedade. Arq Bras Psicol. 2013; 65(3):319-37.
A4. Porto MFS, Juncá DCM, Gonçalves RS, Filhote MIF. Lixo, trabalho e saúde: um estudo de caso com catadores em um aterro metropolitano no Rio de Janeiro, Brasil. Cad Saúde Pública. 2004; 20(6):1503-14.
A5. Castilhos Junior AB, Ramos NF, Alves CM, Forcellini FA, Graciolli OD. Catadores de materiais recicláveis: análise das condições de trabalho e infraestrutura operacional no Sul, Sudeste e Nordeste do Brasil. Ciênc Saúde Coletiva. 2013; 18(11):3115-24.
A6. Santos LMP, Carneiro FF, Hoefel MGL, Santos W, Nogueira TQ. The precarious livelihood in waste dumps: A report on food insecurity and hunger among recyclable waste collectors. Rev Nutr. 2013; 26(3):323-34.
A7. Jesus MCP, Santos SMR, Abdalla JGF, Jesus PBR, Alves MJM, Teixeira N, et al. Avaliação de qualidade de vida de catadores de materiais recicláveis. Rev Eletr Enf. 2012; 14(2):277-85.
A8. Ballesteros VL, Arango YLL, Urrego YMC. Health and informal work conditions among recyclers in the rural area of Medellin, Colombia, 2008. Rev Saúde Públic. 2012; 46(5):866074.
A9. Ballesteros VL, Arango YLL, Botero SB, Urrego YMC. Factores de riesgo biológicos en recicladores informales de la ciudad de Medellín, 2005. Rev Fac Nac Salud Pública. 2008; 26(2):169-77.
A10. Rozman MA, Azevedo CH, Jesus RRC, Filho RM, Junior VP. Anemia in recyclable waste pickers using human driven pushcarts in the city of Santos, southeastern Brazil. Rev Bras Epidemiol. 2010; 13(2):326-36.
A11. Almeida JR, Elias ET, Magalhaes MA, Vieira AJD. Efeito da idade sobre a qualidade de vida e saúde dos catadores de materiais recicláveis de uma associação em Governador Valadares, Minas Gerais, Brasil. Ciênc Saúde

Colet. 2009; 14(6):2169-80.
A12. Gómez-Correa JÁ, Agudelo-Suárez AA, Ronda-Pérez E. Condiciones Sociales y de Salud de los Recicladores de Medellín. Rev Salud Pública. 2008; 10(5):706-15.
A13. Rozman MA, Alves IC, Porto MA, Gomes PO, Ribeiro NM, Nogueira LAA., et al. HIV infection and related risk behaviors in a community of recyclable waste collectors of Santos, Brazil. Rev Saúde Pública. 2008; 42(2):838-43.
A14. Cavalcante S, Franco MFA. Profissão perigo: percepção de risco à saúde entre os catadores do Lixão do Jangurussu. Rev Mal-Estar Subj. 2007; 7(1):211-31.
A15. Dall'Agnol CM, Fernandes FS. Health and self-care among garbage collectors: work experiences in a recyclable garbage cooperative. Rev Latino-am Enferm. 2007; 15(espec.):729-35.
A16. Marinho TA, Lopes CLR, Teles SA, Matos MA, Matos MAD, Kozlowski AG, et al. Epidemiology of hepatitis B virus infection among recyclable waste collectors in central Brazil. Rev Soc Bras Med Trop. 2014; 47(1):18-23.
A17. Bogale D, Kumie A, Tefera W. Assessment of occupational injuries among Addis Ababa city municipal solid waste collectors: a cross-sectional study. BMC Public Health. 2014; 14(169).
A18. 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; 10:4607-27.
A19. Cardozo MC, Moreira RM. Potential health risks of waste pickers. O Mundo da Saúde. 2015; 39(3):370-6.
A20. Singh S, Chokhandre P. Assessing the impact of waste picking on musculoskeletal disorders among waste pickers in Mumbai, India: a cross-sectional study. BMJ Open. 2015; 5(9):e008474.
A21. Martins RMB, Freitas NR, Kozlowsk A, Reis NRS, Lopes CLR, Teles SA., et al. Seroprevalence of hepatitis E antibodies in a population of recyclable waste pickers in Brazil. J Clin Virol. 2014; 59(3):188-91.
A22. Auler F, Kakashima ATA, Cuman RKN. Health Conditions of Recyclable Waste Pickers. J Community Health. 2013; 39(1):17-22.
A23. Alvarado-Esquivel C. Toxocariasis in Waste Pickers: A Case Control Seroprevalence Study. PLOS ONE. 2013; 8(1):e54897.
A24. Wachukwu CK, Mbata CA, Nyenke CU. The Health Profile and Impact Assessment of Waste Scavengers (Rag Pickers) in Port Harcourt, Nigeria. J Appl Sci. 2010; 10(17):1968-72.
A25. Silva FF, Ribeiro PRC. O governo dos corpos femininos entre as catadoras de lixo: (re)pensando algumas implicações da Educação em Saúde. Estud Fem. 2008; 16(2):557-80.
A26. Alencar MCB, Cardoso CCO, Antunes MC. Condições de trabalho e sintomas relacionados à saúde de catadores de materiais recicláveis em Curitiba. Rev Ter Ocup. Univ São Paulo. 2009; 20(1):36-42.
A27. Coelho APF, Beck CLC, Fernandes MNS, Silva RM, Reis DAM. Organization of the work in a recycling cooperative: implications for the health of female waste pickers. Cogitare Enferm. 2016; 21(1):01-8.
A28. Gutberlet J, Baeder AM. Informal recycling and occupational health in Santo André, Brazil. International Journal of Environmental Health Research. 2008; 18(1):1-15.
A29. Schibye B, Hansen AF, Sogaard K, Christensen H. Aerobic power and muscle strength among young and elderly workers with and without physically demanding work tasks. Appl Ergon. 2001; 32:425–431.
A30. Chandramohan A, Ravichandran C. Solid waste, its health impairments and role of rag pickers in Tiruchirappalli city, Tamil Nadu, Southern India. Waste Manag Res. 2010; 28(10):951-8.
A31. Vázquez JJ, Panadero S. Chronicity and pseudo inheritance of social exclusion: Differences according to the poverty of the family of origin among trash pickers in León (Nicaragua). Hum Rights Q. 2016; 38(2):379-390.
A32. Yang L. At the Bottom of the Heap: Socioeconomic Circumstances and Health Practices and Beliefs among Garbage Pickers in Peri-Urban China. Crit Asian Stud. 2016;48(1):123-31.
A33. Marinho TA, Lopes CLR, Teles SA, Reis NRS, Carneiro MAS, Andrade AA, et al. Prevalence of hepatitis C virus infection among recyclable waste collectors in Central-West Brazil. Mem Inst Oswaldo Cruz. 2013; 108(4):519-22.
A34. Colvero DA, Souza SM. Avaliação de riscos ocupacionais aos catadores de materiais recicláveis: estudo de caso no município de Anápolis, Goiás, Brasil. R Tecnol Soc. 2016; 12(26): 161-77.

RESULTS

The characterization of articles by year and country of publication, research place, methodological design and area of knowledge can be seen in table 1.

The data in the table show that there has been a growth in scientific production in the last three years, which points to a relatively current production. In addition, Brazil stands out as the country that has published the most and that has done more research with recyclable material collectors. Latin America, Africa and Asia countries are also evidenced as major scenarios, which may indicate that attention to vulnerable groups is greater in regions of the world with more economic and social inequalities.

Table 1 Characterization of analyzed articles by year, country of publication, research conduction place, methodological design and area of knowledge. Santa Maria/RS, 2017. (N=34)

Characteristics	Distribution (n)	%
Year of Publication		
2016-2013	**17**	**50**
2012-2009	8	23.5
2008-2005	7	20.6
2004-2001	2	5.9
Country of Publication		
Brazil	**20**	**58.8**
England	5	14.7
Colombia	2	5.9
Switzerland	2	5.9
Netherlands	2	5.9
United States of America	2	5.9
Pakistan	1	2.9
Research Conduction Place		
Brazil	**24**	**70.6**
Colombia	2	5.9
Mumbai	2	5.9
Ethiopia	1	2.9
Nicaragua	1	2.9
Mexico	1	2.9
Nigeria	1	2.9
China	1	2.9
Not mentioned	1	2.9
Methodological Design		
Cross-sectional Quantitative	**17**	**50**
Qualitative	10	29.4
Quantitative – case-control study	3	8.8
Quantitative – mixed cohort study	2	5.9
	2	5.9
Total	34	100

As for methodological design, quantitative approach studies stood out (descriptive and analytical cross-sectional, cohort and case-control studies), which represented most of the articles analyzed. In data collection procedures, consequently, there was predominance of applications of scales/instruments/questionnaires (validated and not validated) and laboratory and clinical resources such as hemograms and/or serologies, clinical evaluations (anamneses, physical exams, anthropometric assessments), collections of nasal fluid, urine and feces. They were predominantly applied in the context of quantitative studies. Data collection strategies more focused on a qualitative paradigm included group and observation techniques, as well as interviews and documental analysis.

A list of articles according to their methodological designs and levels of evidence is displayed in Chart 2:

Chart 2 – – List of articles by methodological designs and levels of evidence. Santa Maria, RS, Brazil, 2017

Code	Synthesis of research objectives	Methodological design	Classification Level of Evidence
A1	To investigate work environment, posture and profile.	Mixed	Diagnosis Level 6
A2	To estimate the prevalence of occupational accidents.	Cross-sectional quantitative	Diagnosis Level 6
A3	To identify challenges and to understand the picking activity.	Qualitative	Meaning Level 2
A4	To learn about living, working and health conditions.	Mixed	Diagnosis Level 6
A5	To characterize the profile of pickers, to diagnose working conditions and to identify the physical and operational structure of organizations.	Cross-sectional quantitative	Diagnosis Level 6

A6	To estimate the prevalence of food insecurity, and factors of social vulnerability and health risk.	Cross-sectional quantitative	Diagnosis Level 6
A7	To assess perception of quality of life.	Cross-sectional quantitative	Diagnosis Level 6
A8	To characterize working and health conditions and occupational risks.	Cross-sectional quantitative	Diagnosis Level 6
A9	To identify biological risk factors.	Quantitative – cohort study	Prognosis/Etiology Level 2
A10	To estimate the prevalence of anemia and to analyze risk factors associated with it.	Cross-sectional quantitative	Prognosis/Etiology Level 4
A11	To assess the effects of age on presence or absence of pain.	Cross-sectional quantitative	Prognosis/Etiology Level 4
A12	To analyze social and economic situation, morbidity profile and conditions of access to health services.	Cross-sectional quantitative	Diagnosis Level 6
A13	To estimate the seroprevalence of HIV, Hepatitis B and C and syphilis, and to describe risk behaviors associated with their transmission.	Cross-sectional quantitative	Diagnosis Level 6
A14	To describe difficulties experienced at work.	Qualitative	Diagnosis Level 6
A15	To learn about self-care conceptions and actions.	Qualitative	Meaning Level 2
A16	To investigate the prevalence and factors associated with hepatitis B infection and to identify genotypes of this virus in circulation.	Cross-sectional quantitative	Diagnosis Level 6
A17	To assess the extent of occupational injuries, and factors.	Cross-sectional quantitative	Diagnosis Level 6
A18	To reveal health hazards in the separation and transportation of recyclable materials.	Qualitative	Diagnosis Level 6
A19	To analyze health-related risk factors.	Qualitative	Diagnosis Level 6
A20	To assess the prevalence of musculoskeletal injuries, as well as the impact of the occupation on complaints of musculoskeletal injuries.	Quantitative – case-control study	Diagnosis Level 4
A21	To assess the prevalence of antibodies for hepatitis E.	Cross-sectional quantitative	Diagnosis Level 6
A22	To analyze health conditions and access to public health services.	Cross-sectional quantitative	Diagnosis Level 6
A23	To determine the seroepidemiology of Toxocariasis infection.	Quantitative – case-control study	Diagnosis Level 4
A24	To determine the relationship between people's health profile and the microbial load of dumps.	Quantitative – case-control study	Prognosis/Etiology Level 2
A25	To analyze discourses on the sexual and reproductive health of women.	Qualitative	Meaning Level 2
A26	To characterize working conditions and to investigate health-related symptoms.	Qualitative	Diagnosis Level 6
A27	To analyze the organization of work.	Qualitative	Diagnosis Level 6
A28	To learn about main self-perceived health problems.	Qualitative	Diagnosis Level 6
A29	To investigate the effects of picking on the physical capacity of workers.	Quantitative – cohort study	Prognosis/Etiology Level 4
A30	To characterize health deficiencies.	Cross-sectional quantitative	Diagnosis Level 6
A31	To characterize life, work and health.	Cross-sectional quantitative	Diagnosis Level 6

A32	To examine waste collectors' understanding of pollution, health risks and diseases.	Qualitative	Meaning Level 2
A33	To assess the prevalence of Hepatitis C virus infection among collectors.	Cross-sectional quantitative	Diagnosis Level 6
A34	To assess risks in screening.	Cross-sectional quantitative	Diagnosis Level 6

The analysis of evidence revealed a predominance of diagnostic studies, developed mainly by means of a single descriptive or qualitative investigation, which represents a low level of evidence in this classification. This was due to the paucity of cohort or case-control studies, which present a high level of evidence for this category. Also, it should be emphasized that some studies employed the qualitative method in diagnostic research questions, rather than meaning, which culminated in a low level of evidence for these studies.

DISCUSSION

The evidence extracted from the scientific articles was organized in two axes for discussion purposes: Living and working conditions as conditioners of collectors' health; and Illness risks in the context of recyclable material collectors.

Living and Working Conditions as Conditioners of Collectors' Health

The evidence from the articles analyzed showed that recyclable material collectors have poor health conditions. This is due, in part, to precarious work circumstances, which involve elements such as: high incidence of occupational accidents; no access to or no use of personal protective equipment (A1-A2; A15; A17); extended working hours (A3); contact with decomposing or contaminated biological material (A9). Pickers lack material goods that allow a safe job (A27; A30), as well as social, economic and psychological support and incentives; besides, their work force is often subject to the financial exploitation of middlemen, merchants who buy recyclable waste from collectors at low costs and sell it to the industry with higher prices(A5).

In addition, health conditions appear linked to the circumstances in which these people live. The articles evidenced situations of poverty and lack of resources among collectors. Ingestion of food from the garbage and food insecurity was shown (A2; A6; A15), as well as lack of access to sewage system and treated water (A4) and house infestation by rats and cockroaches (A6). These data suggest that the health conditions of waste pickers are not only affected by work, but also by the resources they have for survival, such as housing, food and basic sanitation.

Still with respect to the life of collectors, a study concluded that those in families in situations of economic vulnerability were more likely to present worse health conditions and were subject to a greater number of stressful events in their lives. It also inferred that these circumstances were related to the social exclusion of these subjects (A31). Another study that assessed the quality of life of waste collectors indicated worse scores for psychological, social relations and environment domains (A7), which converges with data previously discussed.

Illness Risk in the Context of Recyclable Material Collectors

The work of collectors brings risks that can be biological (exposure to bacteria, fungi and animals), postural (ergonomic, related to the act of picking), physical (heat, rain, cold), chemical (toxic artificial substances present in recyclable waste), mechanical (weight, intense physical effort) or psychological/emotional (psychic suffering, feelings of devaluation) (A8; A18-A19; A34). Researches have highlighted, in particular, risks of musculoskeletal injuries (especially in the upper limbs, cervical spine, shoulders and back), which aggravate with aging and longer working hours; they also evidence an increase in the workload of collectors over the years, which impairs their health (A11; A20; A28-A29).

It is argued that illness risks can be boosted by the subjects' own conceptions. Some studies have evidenced the concept of health as the absence of serious diseases (A14), little understanding of risks in the work they performed (A4) and denial of risks in their jobs and life (A32). Some collectors believed that risks were a necessary condition for subsistence (A19). These data may indicate poor self-care actions related to perceptions about their vulnerability and, possibly, little information and guidance on the part of health services.

As a possible consequence of this scenario, the incidence of a set of chronic or infectious, communicable diseases, or risks of acquiring them,

was evidenced. These findings include: anemia (statistically related to the variables gender, HIV infection, years of work as a collector) (A10); pain (A1; A11; A26; A28); respiratory affections, diarrhea, chronic diseases and nervous system disorders (A4; A12); seroprevalence of HIV and Hepatitis B and E (A13; A16; A21; A28); hypertension, diabetes mellitus, dyslipidemia, overweight, abdominal obesity (A22); sharps injuries (A4; A18; A33); and infection by Toxocara (A23), Staphylococcus sp., E. coli, Salmonella sp., Pseudomonas aeruginosa and Bacillus sp, Staphylococcus aureus, E. coli and Salmonella sp (A24). These comorbidities may be related to the risks posed by work or by poor living conditions, as shown by the pieces of evidence.

Finally, studies have also revealed precarious access to health and care actions (A22), in addition to low compliance with basic vaccination (A9, A16). Another study, carried out with women, showed little compliance of the latter with gynecological appointments and routine exams (A25). This suggests that part of the waste pickers, besides being vulnerable under different aspects of their life and work, are distant from actions that could promote positive impacts on their health. Therefore, it can be inferred that, in different realities, economic, social and labor deficiencies coexist and are aggravated by insufficient assistance, which increase illness risks.

CONCLUSIONS

The pieces of evidence gathered in this study lead to the conclusion that recyclable material collectors live in poor health conditions, which are determined by their living circumstances (such as housing, income, food and basic sanitation) and working circumstances (such as working hours, financial exploitation, little security and protection). Illness risks are significant and related to the occurrence of accidents, anemia, pain, chronic diseases, affections of the gastrointestinal, respiratory and nervous systems, as well as viral and parasitic infections.

This research has some limitations. Much of the articles published prior to the 2000s were unavailable in electronic format and, therefore, were not selected, even though many met the inclusion criteria. For this reason, a bias in the chronological distribution of scientific production in the area should be considered.

This study brings contributions to the collective health field, especially so that health services and professionals can systematize care based on physical and social determinants of waste collectors' health. Furthermore, there is a need to formulate intervention programs based on the demands pointed out by scientific evidence.

CONDIÇÕES DE SAÚDE E RISCO DE ADOECIMENTO DOS CATADORES DE MATERIAIS RECICLÁVEIS: REVISÃO INTEGRATIVA

RESUMO

Este estudo objetivou descrever as evidências científicas acerca das condições de saúde e risco de adoecimento dos catadores de materiais recicláveis. Consiste em uma revisão integrativa de literatura. As buscas foram realizadas nas bases de dados Literatura Latino-Americana de Ciências da Saúde, PubMed, Scopus e Web of Science em janeiro de 2017, sem recorte temporal. Foram analisadas 34 artigos científicos originais. Há evidências relacionadas a um conjunto de doenças comuns a catadores de diferentes realidades, possivelmente relacionadas a precárias condições de vida e trabalho. Estas são agravadas pelo desconhecimento dos riscos por parte destes. A isso, soma-se o precário acesso ou pouco uso dos serviços de saúde, podendo-se supor que isso represente o agravamento de sua saúde. O risco de adoecimento está relacionado à ocorrência de acidentes, anemia, dor, doenças crônicas, afecções dos sistemas gastrointestinal, respiratório e nervoso, além de infecções virais e parasitárias. Concluiu-se que a saúde dos catadores sofre prejuízos decorrentes das precárias condições de vida e trabalho; o risco de adoecimento é expressivo, envolvendo sobretudo afecções crônicas e infecciosas relacionadas ao ambiente e ao pouco acesso à saúde preventiva.

Palavaras-chave: Saúde do trabalhador. Condições de trabalho. Riscos ocupacionais. Populações vulneráveis. Catadores.

CONDICIONES DE SALUD Y RIESGO DE ENFERMEDAD DE LOS RECOLECTORES DE MATERIALES RECICLABLES: REVISIÓN INTEGRADORA

RESUMEN

Este estudio tuvo el objetivo de describir las evidencias científicas acerca de las condiciones de salud y riesgo de enfermedad de los recolectores de materiales reciclables. Consiste en una revisión integradora de literatura. Las búsquedas fueron realizadas en las bases de datos Literatura Latino-Americana de Ciencias de la Salud, PubMed, Scopus y Web of Science en enero de 2017, sin recorte temporal. Fueron analizados 34 artículos científicos originales. Hay evidencias relacionadas a un conjunto de enfermedades comunes a los recolectores de diferentes realidades, posiblemente relacionadas a precarias

condiciones de vida y trabajo. Ellas son exacerbadas por el desconocimiento de los riesgos por parte de ellos. A ello, se añade el precario acceso o poco uso de los servicios de salud, pudiéndose suponer que esto represente el agravamiento de su salud. El riesgo de enfermedad está relacionado a la incidencia de accidentes, anemia, dolor, enfermedades crónicas, afecciones de los sistemas gastrointestinal, respiratorio y nervioso, además de infecciones virales y parasitarias. Se concluye que la salud de los recolectores sufre daños resultantes de las precarias condiciones de vida y trabajo; el riesgo de enfermedad es expresivo, involucrando, sobre todo, afecciones crónicas e infecciosas relacionadas al ambiente y al poco acceso a la salud preventiva.

Palabras clave: Salud del Trabajador. Condiciones de Trabajo. Riesgos Ocupacionales. Poblaciones Vulnerables. Recolectores.

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