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RESEARCH ARTICLE

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ASSESSMENT OF THE SOCIO-ECONOMIC PROFILE AND QUALITY OF LIFE OF RECYCLABLE MATERIAL COLLECTORS OF ASSOCIATIONS IN THE METROPOLITAN REGION OF GRANDE VITÓRIA, ES

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ABSTRACT

The modernization was accompanied by social and urban problems. The accumulation of waste in the environment, social exclusion and the need to obtain a source of income justified the emergence of professional waste pickers. Despite its importance, these workers suffer discrimination and risky situations in their work. The aim of this study was to evaluate the socioeconomic profile and quality of life of professional collectors from recycling associations in Grande Vitória metropolitan region, Espírito Santo, Brazil. This is an observational study carried out through the application of a socioeconomic form and a quality of life form (WHOQOL-bref). Of the 51 collectors interviewed, there was a predominance of male individuals over 51 years old, married, with high school education and their own residence. Although all respondents declare satisfaction with their work, 41.9% work with recycling due to lack of alternatives and 36.7% have another source of income. The overall and domain quality of life had scores close to or below seventy indicating regular quality of life. It can be concluded that despite the difficulties faced, these workers believe in the importance of the activity performed, feel satisfied with the occupation they perform and declare the desire to continue carrying out grooming.

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INTRODUCTION

The urbanization process, industrial development and population growth caused an increase in the production of urban solid waste in all regions of the planet. The arrival of this modernization was accompanied by social and urban problems. Among them, the lack of control in the disposal of products from modern life, which even today need attention and care by government agencies and the population itself (DEMAJOROVIC; LIMA, 2013). This scenario of accumulation of waste in the environment, coupled with the social exclusion provided by unplanned urban occupation and the need to obtain a source of income justified the emergence of a professional who could find an option for survival in the discarded materials, the waste picker (PINHEL, 2013).

Performing their activities, exposed to various risk situations, both physical and psychological, the collectors are potential environmentalists, because in their daily work they collect and recover what the population discards in an uncommitted way. Even performing a function of such importance, they are professionals who are discriminated, mistreated, rejected and socially excluded (ALEXANDRINO et al., 2009; BARBOSA et al., 2010). According to a survey carried out by the Government of Espírito Santo (2016), throughout Espírito Santo there are approximately one thousand organized waste pickers. Together these workers contribute to the practice of the classic principle dictated by Lavoisier, where "nothing is created, everything is transformed", after all, recycling provides a new look at what was just disposal, transforms what was not useful into something new and allows other people benefit from this garbage to generate income and citizenship (SCARLATO et al., 2009).

Given the above, this research aims to assess the socioeconomic profile and quality of life of professional collectors from recycling associations in the metropolitan region of Greater Vitória, ES. The epidemiological analysis of these variables is essential to enhance the planning of preventive interventions for diseases and aimed at health, in order to promote well-being, reduce the risk of disabilities and diseases and, consequently, increase the quality of life and promote health (GORDIA, 2008; MOREIRA *et al.*, 2014).

METHODS

STUDY DESIGN: This is an observational, cross-sectional, qualitative and quantitative study carried out in eight associations of recyclable material collectors located in the Metropolitan Region of Greater Vitória (MRGV), ES, from September 2020 to July 2021.

CHARACTERIZATION OF THE STUDY LOCATION: The MRGV is formed by seven municipalities, among them: Cariacica, Fundão, Guarapari, Serra, Viana, Vila Velha and Vitória, which occupy a total area of 2.286,54 km², which corresponds to about 4.97% of the total area of the territory of the State of Espírito Santo. The union of these municipalities presents itself as the main center of urban and industrial development in the state, concentrating a population of 1,951,673 inhabitants, which translates into a percentage of 49.13% of the total population of ES – Census 2018/IBGE. This region was also the main responsible for the generation of wealth in the Espírito Santo, representing 53.44% of the GDP (Gross Domestic Product) of the entire state.

INCLUSION CRITERIA: The sample included waste pickers of both sexes aged 18 years or over, registered in Waste Picker Associations, who agreed to participate in the study, orally consenting to the Informed Consent Form (ICF).

EXCLUSION CRITERIA: Collectors who are not legally responsible for themselves, who refused to sign the consent form and who have cognitive difficulties in understanding the study instruments were excluded from the sample.

INSTRUMENTS: Two instruments were used for data collection. At first, a socioeconomic form adapted from Schwengber (2015) was applied and then the brief quality of life form was used – WHOQOL BREF (FLECK *et al.*, 1999).

ETHICAL PROCEDURES: The research was approved by the Ethics and Research Committee (CEP) with human beings at the Vila Velha University (UVV), and the number of the substantiated opinion is 4,282,006 and every participant was read, clarified and consented to the ICF.

DATA ANALYSIS: After collection, all data were recorded and tabulated in a spreadsheet in the Microsoft Excel 2019 program. A quantitative analysis was performed with the percentage distribution of the most relevant variables, through graphs and tables.

RESULTS

In the analyzed period, due to the exclusion criteria and the willingness of the collectors to participate in the research, 31 recyclable material collectors from RMGV associations were interviewed. Table 1 shows the data referring to the characteristics of the sample, a fact that drew attention was the age diversity of the collectors, which ranged from 18 to 83 years old. Although all respondents declare that they like and are satisfied with their work, 41.9% decided to work with recycling due to lack of alternatives and 22.6% do not wish to continue working in this profession due to reduced prospects for improvement and progression at work. Despite this, 87.1% of workers consider the work they do to be very important, with 77.4% of collectors claiming that they would like to continue working as a collector due to their identification with the

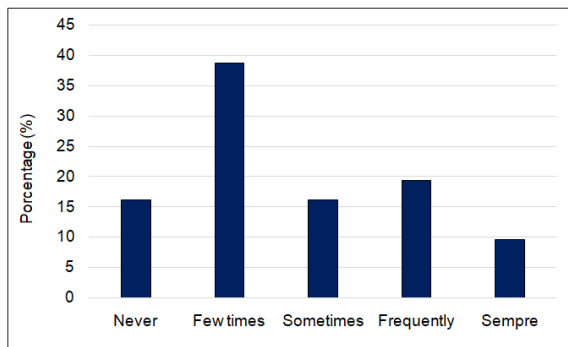
Table 1. Characteristics of the studied sample

VARIABLES	n=31	%
GENDER		
Male	16	51.6%
Female	15	48.4%
AGE		
18 to 25 yearsold	7	22.6%
26 to 33 yearsold	5	16.1%
34 to 41 yearsold	5	16.1%
42 to 50 yearsold	6	19.4%
Over 51 yearsold	8	25.8%
CIVIL STATUS		
Single	9	29.0%
Married	12	38.7%
Divorced	2	6.5%
Widower	2	6.5%
Others	6	19.3%
SCHOLARITY		
ElementarySchoolincomplete	4	12.9%
ElementarySchool complete	2	6.5%
Middle Schoolincomplete	5	16.1%
Middle School complete	1	3.2%
High schoolincomplete	3	9.7%
High school complete	15	48.4%
Attendinghighereducation	1	3.2%
HOME		
Leased	3	9.7%
Assigned	6	19.3%
Own	22	71.0%
WORKING HOURS/DAY		
3-5 hours	2	6.5%
6-7 hours	1	3.2%
8-9 hours	19	61.3%
10 hours or more	9	29.0%
DAYS WORKED/WEEK		
4 days	1	3.2%
5 days	27	87.1%
6 days	3	9.7%
WORK SHIFT/DAY		
Morning	6	19.4%
Afternoon	1	3.2%
Morningandafternoon	16	51.6%
Morningandnight	1	3.2%
Morning, afternoonandnight	7	22.6%
DO YOU HAVE A HABIT OF SMOKING?		
Yes	11	35.5%
No	20	64.5%
DRINK ALCOHOLIC BEVERAGE?		
Yes	8	25.8%
No	23	74.2%
PRACTICE PHYSICAL ACTIVITY?		
Yes	12	38.7%
No	19	61.3%

Table 2. WHOQOL-bref Result

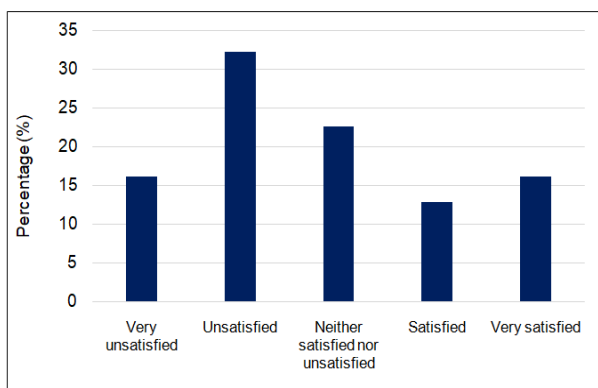
DOMAIN	AVERAGE (%)
Physical	69.47
Psychological	71.77
Social	72.31
Environment	55.44
Global	65.79

work performed and the social importance of the activity. Even so, 45.2% believe that they are seen by the community/public power as performers of a position of little importance, and 32.3% feel discriminated because of their professional function. It is Worth noting that 36.7% of respondents have another source of income than collecting recyclable materials, mostly informal work (36.4%). Collectors reported having rare leisure opportunities (22.6%) and occupy their free time taking care of the house and children (48.4%) in addition to watching TV (32.3%), which is the main vehicle for information (64.5%) followed by the internet (48.7%). Despite 93.5% of collectors claiming to use Personal Protective Equipment (PPE) during the collection work, 38.7% of them have already suffered accidents, including cuts (50%), perforations (16.7%), bruises



Source: Prepared by the authors (2021).

Graphic 1. How often do you have negative feelings, such as bad mood, despair, anxiety or depression?



Source: Prepared by the authors (2021).

Graphic 2. How satisfied are you with your access to health services?

(16.7%), fracture (16.7%), among others. Of the total cuts, 40% occurred in the hands and 40% in the feet. The vast majority of respondents do not have chronic diseases (67.9%), such as respiratory diseases (17.9%) and high blood pressure (14.3%), however in the last six months some had acute manifestations such as itching and skin irritations (41.7%) and headache (87.5%). Among the interviewed collectors, 38.7% declared they had few negative feelings (depression, anxiety, despair and bad mood) (Graphic 1). Only 29% of respondents considered their quality of life to be very good, despite 41.9% of the population claiming that the health of physical environment in which they live is regular. This data differs from another answer, in which 50% of the interviewees declared they were satisfied or very satisfied with the conditions in the places where they live. 41.9% of waste pickers said they looked for doctors very little for treatment and, when they did, it was only when they got sick (77.4%), they went to the health unit (50%) or the Emergency Care Unit (UPA) (43.3%). When they look for it, only 60% receive guidance in these services. Only 80.6% of the population has up-to-date vaccinations. The graphic 2 portrays how satisfied are waste pickers with access to the health services. With regard to the analysis of quality of life using the WHOQOL-bref instrument, the domains and overall quality of life showed that the collectors have a regular quality of life (Table 2). The domain with the lowest score is related to the environment (physical safety and protection, home environment, financial resources, health and social care, opportunities to acquire new information and skills, participation in recreation/leisure opportunities, physical environment and transport). The domain with the highest score is social (related to personal relationships, social support and sexual activity).

DISCUSSION

The present study identified the majority of collectors as being male (51.6%), despite having a considerable portion of women (48.4%) when compared to other studies.

This can be explained by a smaller sample compared to these studies, by the increase in the inclusion of women in the market and by the absence of work alternatives at the moment (JESUS *et al.*, 2012). Workers of different ages were identified, from 18 to 83 years old. In this sample, about 45.2% of collectors are over 41 years old. This high percentage, also identified in other studies, may reflect an obstacle for this age group to enter the labor market (JESUS *et al.*, 2012). In addition, age can be a determinant in self-perception of quality of life, with younger people usually having a lower degree of personal satisfaction and older collector having greater satisfaction with life. This can be explained by the fact that these young people have a higher level of education since access to education induces a greater demand for quality of life and salary (NOGUEIRA *et al.*, 2017). Despite this, no difference was observed between the different ages in terms of job satisfaction, as 100% of the collectors reported enjoying and feeling satisfied with the activity they perform. Although most pickers report having attended the school environment, only approximately half of them (48.4%) completed high school. This is also proven by other studies that show that most recyclable material collectors have a low level of education, which is directly related to living conditions (JESUS *et al.*, 2012).

As for housing around 71.0% of the pickers report having their own house, 19.3% lent and 9.7% rented. Owning a house is directly related to issues such as safety, food and family protection, which can favor the collectors' self-perception of their identity (JESUS *et al.*, 2012). In addition, 38.7% of survey participants reported being married, which is a factor that encourages a better perception of quality of life (JESUS *et al.*, 2012), 29% are single and the others are separated, widowed or in a stable union. In the present study, it was found that about 36.7% of the group has another source of income besides collecting, most of them in informal work (36.4%). Still it was observed that 41.9% of individuals entered the activity of recyclable material collector due to the lack of alternatives. The motivation to start collecting work can be related to unemployment, lack of other work options and low level of education, which reveal a trajectory of social exclusion (CASTILHOS JUNIOR *et al.*, 2013).

In this survey, Only 38.7% of waste pickers report having suffered some type of accident. These accidents, also reported in other studies, especially cuts and perforations, are mainly due to the unhealthy and unsafe work environment (NOGUEIRA *et al.*, 2017). The vast majority of interviewed collectors (93.5%) reported using some type of protection (gloves, glasses, closed shoes, among others) during the collection activity. However, in the last six months, 41.7% had itchy and irritated skin, calluses (25%), diarrhea (20.8%) and changes in the nails (8.3%), affections that may be related to the activity often performed in unhealthy environments that pose risks to the health of these workers (SIQUEIRA *et al.*, 2009). Among workers who claimed illnesses, most have chronic diseases, which may be related to the percentage of collectors aged over 40 years found in the study. Recyclable material collectors often do not consider some of the risks they run in the work environment as important, making it easier for more accidents to occur precisely because of the lack of prevention, because if they do not identify the risk, they do not prevent themselves correctly. Therefore, it is essential to carry out an intervention and present such data, so that there is greater self-valuation of the quality of life of these workers (NOGUEIRA *et al.*, 2017). In addition, 61.3% of respondents do not perform physical activity. This may be related to the greater workload of these workers, since many work in more than one shift, with the majority dedicating 8 to 9 hours (61.3%) and 10 hours or more (29%) and at least 5 days in the week (87.1%) to pickup, seeking greater collection. Even so, the financial resources obtained are unsatisfactory and 32.3% of the collectors said they did not have enough money to satisfy their needs in relation to life. This great demand for work as a waste picker, requiring mostly more than 8 hours a day and about 5 days a week consumes a lot of their time, often making it impossible to obtain a complementary source of income and reducing the time for leisure activities (NOGUEIRA *et al.*, 2017), with the majority reporting that in their free time they take care of the house and children (48.4%) and watch television (32.3%).

Regarding the quality of life assessed by the WHOQOL-bref instrument, the highest scores were obtained in the social (72.31%) and psychological (71.77%) domains. Most waste pickers are satisfied with the personal relationships and support they receive from family and friends. Also, as the study participants were organized into associations, the feeling of social belonging also contributed to the highest average obtained in these domains (JESUS *et al.*, 2012). The environment domain had the lowest mean (55.44%), which may be related to unsatisfactory financial resources, lack of opportunity for leisure activities and difficulty in accessing health services. Most waste pickers dedicate at least 5 days a week (87.1%) to collecting, in addition to reporting unsatisfactory financial income, with part of them having another source of complementary income. Still, most claim not to have enough money to meet their needs in life. In addition, recyclable material collectors lack minimum social and labor guarantees, in addition to being subjected to unhealthy working conditions (JESUS *et al.*, 2012). Despite the routine and greater physical effort required by the occupation favor the appearance of health problems such as pain in the body, osteoarticular diseases and arterial hypertension, the physical domain had an average of 69.47% (JESUS *et al.*, 2012).

Most collectors reported not needing medical treatment to live their daily lives, reported having enough capacity and energy for their daily lives and satisfaction in relation to their ability to work. The collector's perception of quality of life, called overall quality of life in the instrument used, had an average of 66.79%, with most individuals reporting good quality of life. This may be related to age over 40 years and shared residence with the family, as studies show better quality of life and global assessment in these circumstances (NOGUEIRA *et al.*, 2017). In addition, the participation of these collectors in associations favors the feeling of social belonging and maintenance of self-esteem (JESUS *et al.*, 2012). Despite the difficulties faced and the little importance attributed by society and the public authorities to collectors, these workers believe in the importance of the activity performed, feel satisfied with the occupation they perform and declare their desire to continue collecting. Regarding the quality of life of this group, working more than one shift, unhealthy working conditions and poor access to public policies are factors that contribute to the lower quality of life observed in the study. Thus, it is necessary to seek better living conditions for these workers, as well as to ensure comprehensive health care.

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