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WORKING AND HEALTH CONDITIONS OF AGRICULTURAL WORKERS
Worker safety and protection

CONDIÇÕES DE TRABALHO E SAÚDE DE TRABALHADORES AGRÍCOLAS
Segurança e Proteção de Trabalhadores

CONDICIONES DE TRABAJO Y SALUD DE LOS TRABAJADORES AGRÍCOLAS
Seguridad y protección de los trabajadores

Mariana Bento Borges[1], Marina Pereira Rezende[2]

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ABSTRACT

Objective: To identify whether rural workers who work in agricultural activities have comfort, safety and protection during their work activities. **Methodology:** This is a "snowball" sampling study, carried out with people who carry out agricultural activities in a rural neighborhood in the interior of Minas Gerais. **Results:** Among the 10 rural workers who participated in the research, all were male, aged between 22 and 57 years old. Two categories were listed, namely: (1) accidents in the workplace and (2) use of personal protective equipment. **Conclusion:** In short, the majority of rural workers report chemical, physical, pesticide, mechanical accidents and venomous animal bites. Furthermore, it was detected that self-employed individuals have a lack of information and clarity about the importance of personal protective equipment when compared to workers registered through companies.

Descriptors: Rural Population; Agrochemicals; Occupational Risks; Environmental Exposure; Rural Health.

[1] Nursing student, Federal University of Triângulo Mineiro (UFTM), Uberaba, Minas Gerais, Brazil. https://orcid.org/0000-0002-4662-1094, https://lattes.cnpq.br/1928144192750603, marianabentoborges_@hotmail.com

[2] RN from the Federal University of Triângulo Mineiro (UFTM). PhD in Fundamental Nursing from the Ribeirão Preto School of Nursing - São Paulo (EERP-SP). Specialization in Occupational Nursing São Camilo University Center (SÃO CAMILO), Associate Professor at the Federal University of Triângulo Mineiro (UFTM), Uberaba, Minas Gerais, Brazil, http://orcid.org/0000-0003-4054-8911, http://lattes.cnpq.br/8062210131889696, marina.rezende@uftm.edu.br

RESUMO

Objetivo: Identificar se os trabalhadores rurais que atuam na atividade agrícola apresentam segurança e proteção durante o desenvolvimento das atividades laborais. **Metodologia:** Trata-se de um estudo de amostragem nomeada como "bola de neve", realizado com pessoas que realizam atividades agrícolas em um bairro rural do interior de Minas Gerais. **Resultados:** Dentre os 10 trabalhadores rurais que participaram da pesquisa, todos eram do sexo masculino, com idade entre 22 a 57 anos de idade. Elencaram-se duas categorias, a saber: (1) acidentes no meio de trabalho e (2) utilização de equipamentos de proteção individual. **Conclusão:** Em suma, a maioria dos trabalhadores rurais relatam incidentes do tipo químico, físico, agrotóxico, acidente mecânico e picada de animas peçonhentos. Ainda, detectou-se que os indivíduos autônomos apresentam déficit de informações e clareza sobre a importância dos equipamentos de proteção individual quando comparados aos trabalhadores registrados por meio de empresas.

Descritores: População Rural; Agroquímicos; Risco Ocupacional; Exposição Ambiental; Saúde do Trabalhador Rural.

RESUMEN

Objetivo: Identificar si los trabajadores rurales que trabajan en actividades agrícolas tienen comodidad, seguridad y protección durante sus actividades laborales. **Metodología:** Se trata de un estudio de muestreo "en bola de nieve", realizado con personas que realizan actividades agrícolas en un barrio rural del interior de Minas Gerais. **Resultados:** Entre los 10 trabajadores rurales que participaron en la investigación, todos eran hombres, con edades entre 22 y 57 años. Se enumeraron dos categorías, a saber: (1) accidentes en el lugar de trabajo y (2) uso de equipo de protección personal. **Conclusión:** En resumen, la mayoría de los trabajadores rurales reportan accidentes químicos, físicos, por pesticidas, mecánicos y mordeduras de animales venenosos. Además, se detectó que los trabajadores por cuenta propia tienen falta de información y claridad sobre la importancia de los equipos de protección personal en comparación con los trabajadores registrados a través de empresas.

Descriptores: Población Rural; Agroquímicos; Riesgos Laborales; Exposición a Riesgos Ambientales; Salub Rural.

INTRODUCTION

According to the principle of universality related to worker health, the user-worker is all individuals who work in urban or rural areas, regardless of the form of insertion in the labor market, which may be formal or informal, public or private employment relationship.[1]

Rural areas are areas with low population density, corresponding to approximately 18 million rural workers, who generally have less access to health services due to lack of information, work overload, transportation difficulties, shortage of health professionals, and lack of coverage in primary care services, even though the search for a reference network has been preferentially installed in urban areas.[1-4]

Since the dawn of humanity, working with land, water and extractivism have been part of the survival and evolution of the population. With the advancement of technology and the improvement of work techniques, the rural population has stood

out for its ecological sustainability, agricultural production and the social organization of groups.[4-5]

In Brazil, there is a significant number of cases of work accidents or occupational diseases caused by rural workers, who are exposed to various risks and damages, including: exposure to toxic substances (fertilizers and pesticides); strong exposure to the sun; accidents with machines, tools and accidents due to exposure to venomous animals.[6-7]

However, many cases of work accidents or occupational diseases could be avoided by applying preventive measures and, to this end, regulatory standard 31 (NR31) has been establishing obligations for employers and employees regarding the use of personal protective equipment (PPE) as safety measures and requirements necessary to provide good working conditions aimed at protecting the health and physical integrity of rural workers.[8]

The PPE established by NR31 are: helmets and hats, face protectors, safety glasses; ear protectors, respirators (mechanical, chemical or combined filters), safety gloves, safety shoes, boots, leggings, aprons, jackets and capes, overalls, vests or signaling strips special clothing, essential to prevent accidents and damage to health.[9]

According to Law No. 7,802 of July 11, 1989, pesticides are products and agents of physical, chemical or biological processes, intended for use in the cultivation, storage and processing of agricultural products to combat undesirable insects such as agricultural pests. Brazil is one of the largest consumers of pesticides in the world, which rural workers, through their handling, are potentially exposed to poisoning in their work routine, causing harm to their health if adequate protective measures are not applied, since they are considered a public health problem.[7]

In view of the above, this study aimed to identify whether rural workers who work in agricultural activities have security and protection during the development of work activities.

METHODOLOGY

Type and workplace

This is a descriptive, exploratory study with a qualitative approach. A “snowball” sampling method was used, a non-probabilistic sampling method in which the initial informants indicate other possible participants, creating a network of contacts.[10]

The research was carried out with people who carry out agricultural activities, especially agriculture and livestock farming, and was carried out online in a private virtual environment, using a free communication application accessible to participants.

Target audience

The study participants were people who carry out agricultural activities in a rural neighborhood of a municipality.from the interior of the state of Minas Gerais. In total, 10 rural workers participated in the research.Rural workers in agricultural activities, who were psychologically and physically able to respond to the interview and who agreed to participate in the research, and who were over 18 years old, were included in the research. Individuals who did not have an internet connection and those who could not be located after three attempts to schedule the interview were excluded.

Data collection instruments

The interviews were conducted using an online form prepared by the researcher and previously submitted to the apparent and content evaluation by three doctors in the subject and/or research methodology.The experts were invited to validate the instrument and sign the Free and Informed Consent Form (FICF).The interview script included two stages: the first related to the participants' sociodemographic data; the second contained guiding questions to investigate, from the worker's perspective, what it is like to develop agricultural activity, what are the advantages and disadvantages of developing this activity and the precautions related to occupational risks, safety and accident prevention.

Data collection procedure

Workers who agreed to participate in the study and signed the TCLE participated in the interviews. The interviews were conducted online, in a private virtual environment using a free communication application accessible to participants.

At the beginning of the data collection process, each individual to be interviewed was presented with a copy of the approval of the research project by the Research Ethics Committee involving human beings (CEP) of the Federal University of Triângulo Mineiro (UFTM).

It is extremely important to emphasize that the semi-structured interview is the most widely used technique in qualitative research, a combination of open and closed questions, as it is considered a technique for collecting objective and subjective data from each person's point of view, allowing interaction between the interviewer and the interviewees.[11]

Data analysis

The data collected regarding the characterization of the interviewees were subjected to descriptive analysis.

The number of individuals interviewed was guided by the information saturation criterion. Subsequently, the content analysis

technique was used to approach these data, in the thematic modality[12], where the cores of meaning were sought to respond to the research objectives.

Data analysis is divided into three stages: in the first, pre-analysis, the documents will be chosen according to the objective of the project, followed by reading the contents using exhaustiveness criteria; in the second, the exploration of the material, in which the words and terms that were most addressed in the interviews will be cut out and pasted; in the third, the treatment of the results obtained and interpretation, in which the most relevant data will be subjected to statistics and analyzed according to the proposed objectives.[12]

Ethical aspects

The project was forwarded and approved by the Human Research Ethics Committee of the Federal University of Triângulo Mineiro CAAE: 60608122.8.0000.5154, opinion no.: 5,539,813, and complied with the criteria of Resolution 466/2012, involving research with human beings.

RESULTS AND DISCUSSION

Among the 10 rural workers who participated in the research, it was observed that 100% of the participants were male and single.

Regarding the age range, a variation between 22 and 57 years of age was identified, with 6 participants aged between 22 and 34 years, 2 participants aged between 40 and 45 years and 2 interviewees aged between 54 and 57 years.The length of time these professionals have worked in the agricultural sector varies from 5 to 25 years, with the majority having been working for 7 years (20%). It is worth noting that all of them began their work activity before entering adulthood, with a predominance in childhood 3 (30%).

From the interview it was possible to identify two categories, namely: (1) accidents in the workplace and (2) use of PPE.

Accidents in the workplace

When asked about accidents suffered in the workplace, 6 professionals reported having suffered accidents related to exposure to risks such as mechanical accidents (venomous animal bites, injuries, among others).

> *When I was younger, I was helping my father milk the cow and there was a cow that had just calved and it came at me, her horn went into my mouth and she pressed me against the corral's timbers, knocked out a tooth and hurt my mouth. Interviewee 1.*

> *I was stung by a scorpion once, it was inside the boot I was wearing. It hurt a little, but I didn't need to seek medical attention. Interviewee 5.*

I was working with the cattle in the corral and got kicked in the knee, but it didn't hurt too much, it just hurt for a few days. Interviewee 6.

I went to move some cattle to pasture, and I don't know what happened, but the horse I was riding started to jump. I believe there was a scorpion in its saddle and it stung the horse because it was very tame. I always rode it, but that day it jumped, I fell and broke my arm. I had to have surgery. Interviewee 7.

Yes, I have cut my leg because of my work. Interviewee 8.

It can be seen from the statements that the way the worker deals with the accident and the lack of seeking health care is flawed, becoming a banal problem and continuing normally with their daily work activities.

Similar to the present study, research carried out in the Alta Jequitinhonha region highlights that the most frequent type of accident is that which occurs with sharp or penetrating objects, as well as those caused by contact with venomous animals characterized by snakes and scorpions, which highlights the need to implement measures to confront and raise awareness about accidents.[13] Among the measures, awareness projects, courses and lectures on how to carry out rural activities more safely, avoiding accidents and illnesses, stand out.[13]

A study carried out in the interior of São Paulo complements the present research by identifying a prevalence of accidents resulting from work tools, followed by contact with poisonous animals and plants, falls, twisting, slipping and tripping, highlighting how susceptible this professional class is to suffering work accidents.[14]

Descriptive research carried out in the municipality of Linha Nova, showed a prevalence of accidents resulting from the use of chainsaws in forestry and from the incorrect handling of the scythe, which caused injuries to the lower limbs and the wrist or hand region, demonstrating the need for awareness-raising actions among workers.[15]

A literature review carried out at a national level identified that work accidents in the forestry sector involve falling trees, accidents with vehicles, work equipment, falling branches and landslides due to a lack of knowledge about the risks to which they are exposed.[16]

Use of PPE

When asked about the use of personal protective equipment, different responses were received depending on the type of work: self-employed or registered under the CLT regime.

Workers under the CLT regime use PPE more cautiously and safely, in accordance with the work standards that are imposed. They aim for verbal and signed warnings if they do not use it correctly. As we can see in the following answers:

Yes, I use it. The company provides it to us, it's free. I don't see any problem in using it. Interviewee 2.

I always use them, the company provides them for free, it is very important for me to use them. Interviewee 3.

Sometimes I use it, my boss provides it, it's free, I don't think it's bad to use it, but there are days when I forget. Interviewee 4.

Specifically self-employed workers have greater restrictions regarding the use of PPE. The justifications for the responses are lack of information, little importance for use, lack of time, discomfort and forgetting them.

Sometimes I wear glasses and headphones, and when I do welding I also wear a mask. I buy it myself. I think it is very important to use it, but sometimes I forget. Interviewee 1.

I don't really like using it, sometimes it's annoying, but depending on the service I'm going to perform I use it. Interviewee 5.

When I need to use pesticides and spray cattle against ticks, I use a mask, I buy it myself. Interviewee 7.

Yes, I use it for some work. My father and I bought the equipment. I think it is very important to use it, but sometimes I end up forgetting. Interviewee 8.

Based on the interviews, the care taken by managers and employees in accordance with CLT standards is clear. In the case of self-employed workers, care for their own physical and mental health becomes precarious.

A study carried out with rural workers in municipalities in Pernambuco showed that more than half of the individuals do not use PPE and this can be justified by the fact that the majority of workers are minors, elderly, illiterate and are not adept at training.[17]

Research carried out in two municipalities in the interior of Minas Gerais shows that half of rural workers do not use PPE because they are not aware of the regulatory standards, as well as the risks of their activity and even due to the lack of PPE, which becomes a great challenge to maintain an environment minimally free of accidents and diseases.[13]

In a review of the literature developed in Brazil, it was identified that rural workers with low levels of education have difficulty in processing information, which can hinder adherence to and practice of preventive measures such as the use of PPE when carrying out activities in the field.[16]

Specifically, regarding the lack of adherence to PPE by self-employed workers, scientific evidence justifies that these professionals report there is no need to use this type of equipment, as well as the fact that they often work by the day and have to perform the service more quickly in order to obtain more services and more money and also due to the lack of guidance and training regarding the use of PPE.[18]

In view of the above, the results obtained in this research promote implications for nursing practice and health care by structuring a theoretical framework supported by new information about

agricultural work and protective measures, as well as expanding the professional self-perception of rural workers, in addition to contributing to the understanding of the object of study and the advancement of scientific knowledge.

FINAL CONSIDERATIONS

This study sought to identify and highlight the conditions under which rural workers perform their activities. In this way, it was also intended to elucidate the need for training for these professionals on protective measures, such as the use of PPE, in accordance with NR31.

The results of this descriptive, exploratory and qualitative study point to a lack of information and clarity about the importance of personal protective equipment for self-employed workers and greater understanding by workers registered under the CLT.

The study points to significant results on the importance of training/guidance on which personal protective equipment to use during the activity and where to seek assistance in situations of work accidents.

However, this study had some limitations, such as: difficulty in finding agricultural workers to participate in the interview, due to low internet uptake and refusal to participate.

Therefore, it is suggested that agricultural workers be made aware of the importance of using PPE in accordance with NR31 and that these studies be expanded to primary care, seeking to offer comprehensive and quality care, and the development of guidance programs for rural workers.

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