

**Group activities for workers with musculoskeletal disorders associated to work: an experience report****Atividades grupais para trabalhadores com distúrbios osteomusculares relacionados ao trabalho: relato de experiência****Actividades grupales para trabajadores con disturbios osteomusculares relacionados al trabajo: relato de experiencia****Received: 01/12/2019****Approved: 23/04/2019****Published: 15/05/2020****Alline Alves de Sousa<sup>1</sup>**  
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This is a descriptive study, whose objective is to discuss the experiences of group activities involving workers with Repetitive Strain Injuries/Work-related Musculoskeletal Disorders. The research was carried out in the second half of 2019. Six workers participated, with ages varying between 49 and 62 years old ( $55.16 \pm 4.45$ ). Five (83.3%) were women. Among the statements associated with suffering, there are intense chronic pains that contribute to the emergence of fear, anguish, anxiety, and depression. The interventions indicated that the use of collective groups allowed the sharing of feelings and strengthened the relationships of trust between workers and professionals, enabling the creation of individual and collective strategies for coping with suffering.

**Descriptors:** Workers; Cumulative trauma disorders; Occupational health.

Este é um estudo descritivo, com o objetivo de relatar as experiências de atividade grupal com trabalhadores com Lesões por Esforços Repetitivos / Distúrbio Osteomusculares Relacionados ao Trabalho, realizado no segundo semestre de 2019. Participaram seis trabalhadores, com idades variando entre 49 e 62 anos ( $55,16 \pm 4,45$ ), sendo cinco (83,3%) mulheres. Entre os relatos associados ao sofrimento destacam-se as dores crônicas intensas que contribuem para o surgimento de medo, angústia, ansiedade e depressão. As intervenções indicaram que a abordagem grupal permitiu o compartilhamento dos sentimentos e fortaleceram as relações de confiança entre os trabalhadores e os profissionais, possibilitando a criação de estratégias individuais e coletivas para o enfrentamento do sofrimento.

**Descritores:** Trabalhadores; Transtornos traumáticos cumulativos; Saúde do trabalhador.

Este es un estudio descriptivo, con el objetivo de relatar las experiencias de actividad grupal con trabajadores con Lesiones por Esfuerzos Repetitivos / Disturbio Osteomusculares Relacionados al Trabajo, realizado en el segundo semestre de 2019. Participaron seis trabajadores, con edades variando entre 49 y 62 años ( $55,16 \pm 4,45$ ), siendo cinco (83,3%) mujeres. Entre los relatos asociados al sufrimiento se destaca el dolor crónico intenso que contribuye al surgimiento de miedo, angustia, ansiedad y depresión. Las intervenciones indicaron que el abordaje grupal permitió compartir sentimientos y fortaleció las relaciones de confianza entre los trabajadores y los profesionales, possibilitando la creación de estrategias individuales y colectivas para el enfrentamiento del sufrimiento.

**Descritores:** Trabalhadores; Transtornos traumáticos cumulativos; Saúde do trabalhador.

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## INTRODUCTION

Recent changes in work settings can lead to an increase in physical and mental suffering in workers. Work organization with excessive demands, as well as moral harassment, lack of recognition at work, role conflicts, and the perception of injustice in the work environment generate mental suffering that influences the disease processes that affect the musculoskeletal system. In Brazil, these pathologies are known as Repetitive Strain Injuries/Work-Related Musculoskeletal Disorders (RSI/WRMSD)<sup>1,2</sup>.

The RSI/WRMSD can be characterized as a group of disorders of the musculoskeletal system developed during work, triggered by a chronic process involving muscles, tendons, joints, nerves and ligaments, resulting in complaints of pain, tingling, numbness, and fatigue<sup>3</sup>. They are among the main causes of temporary and permanent disability for work, generating costs in the area of public health for the rehabilitation of these workers<sup>4</sup>.

The mental suffering of people with RSI/WRMSD involves multiple factors, such as: prejudice, considering that the disease is frowned upon in society, as it is thought to be associated with laziness and incapacity for work, leading individual to withdraw from their usual activities and their social interactions and causing damage to their self-esteem. Besides these factors, the excessively demanding goals of organizations means that job loss is a constant threat, generating feelings of insecurity<sup>5,6</sup>. Consequently, depression is often treated as an RSI/WRMD comorbidity<sup>7</sup>.

Thus, there is a considerable number of workers on leave due to RSI/WRMD and work-related mental disorders, making it necessary for public policies to be created and implemented in the field of occupational health. In this context, the Reference Centers in Occupational Health (CEREST) should assume the role of providing technical and scientific support in occupational health. They also need to coordinate interinstitutional projects to promote, monitor and assist workers' health, within the scope of their area of coverage<sup>8</sup>.

It is noteworthy that Universities can be important partners for the CEREST. They should seek to strengthen relations with the community, building elements that allow their students to experience the challenges they face in the field of public health<sup>9</sup>. They should act in the development of innovative projects, capable of dealing with the complexity that involves the field of occupational health<sup>10</sup>. Universities have the potential to influence the training process of professionals, in addition to contributing to the strengthening of Brazilian public health. And with this partnership, SUS and the health system can offer, to the academic community, a large setting, with endless possibilities for continuous learning.

In this sense, in 2016, CEREST Uberaba and the Physical Therapy Graduation Course of at the *Universidade Federal do Triângulo Mineiro* (UFTM) established a partnership, aiming to develop actions in the occupational health area.

Throughout this partnership, the team responsible for the assistance found that a high number of users referred by the health care network of the city and waiting for physical therapy treatment at the Specialized Rehabilitation Unit (UER) where their due to musculoskeletal impairments — CID10 — Chapter XIII: Diseases of the musculoskeletal system and connective tissue<sup>11</sup>.

This data showed that health evaluations of these users were necessary find the association between these problems and the work performed by these users and to analyze the results of healthcare actions through interinstitutional technical cooperation with specific actions for RSI/DORT. Thus, this article aims to discuss the experiences of a group activity with workers with Repetitive Strain Injuries/Work-related Musculoskeletal Disorders.

## METHOD

This is a descriptive and exploratory study, that discusses experiences related to health care activities conducted with workers diagnosed with RSI/WRMS from July to August 2019.

For the procedures adopted, it was first necessary for the researchers from the university to contact the Municipal Health Secretariat (SMS) to present the objectives, justifications, and methodology of the project, to obtain authorization for the study to be conducted in the UER and in the CEREST. After the authorization was received, the study was submitted and approved by the UFTM Ethics Committee on Human Research under certificate 08688818.0.0000.5154.

The Specialized Rehabilitation Unit (EBU) gave the researchers a list of users referred to the service with a diagnosis of musculoskeletal disorders. These patients were called and those who were workers were identified (men or women who worked to support themselves and/or their dependents, regardless of their insertion in the job market, including those on leave from work or unemployed)<sup>12</sup>.

A meeting was scheduled at the time convenient for the worker to meet the researchers at the UER (morning or afternoon). Once there, they were evaluated by previously trained researchers. The diagnosis of RSI/WRMD was based on assessments of sociodemographic aspects, detailed clinical history (history of the current disease), detailed physical examination, occupational aspects, and musculoskeletal symptoms, as indicated by Normative Instruction No. 98, from December 5, 2003, which approves the Technical regulation for RSI<sup>13</sup>.

After establishing the diagnosis, the workers were informed about the study and were invited to voluntarily participate in group interventions. They were informed that their personal information would be kept confidential and that the data could only be used for publications without personal identification of the participants.

The inclusion criteria selected 18 years old or older workers, from both sexes, diagnosed with RSI/WRMSD, and who signed the Informed Consent Form (TCLE).

The development of group practices is in accordance with the principles of the SUS. These activities are becoming more common in public health, as they provide the sharing of experiences among workers<sup>14</sup>. The groups function as a therapeutic and pedagogical instrument, as a space for listening, exchanging experiences and reflection, encouraging behaviors of self-care in health by the participants<sup>15</sup>.

Psychosocial interventions were coordinated by the CEREST psychologist and had a therapeutic and pedagogical function, mainly addressing the following themes: self-knowledge, problem solving, facing challenges, communication / interpersonal relationships. Group dynamics, case study, guided group discussions and socializing techniques were used. Such techniques are useful for promoting group integration and cohesion, for the development of social skills and assertive behaviors, for increasing self-knowledge and assuming a posture that allows confronting the problems. The activities were divided into three stages.

The initial stage was characterized as the instruction stage of the activity. The evaluator was made available to answer questions from the participants within a previously determined period. The second stage was the execution of the activity, who received guidance in person or at a distance. The last stage, the end of the activity, promoted the participant's critical reflection on the group task.

A kinesiotherapeutic protocol was developed by a physical therapist and master's degree student in the Physical Therapy program at UFTM. This assistance was made to meet the demands of workers, emphasizing stretching and muscle strengthening, with isometric and self-resistance exercises<sup>16</sup>.

Stretching exercises were maintained for 30 seconds with a series of 3 repetitions, and strengthening exercises were performed with a series of 10 repetitions, progressing to 20 repetitions when half the sessions were reached, always respecting the clinical evolution of the patients<sup>17</sup>.

To control the frequency of the participants, at each meeting, workers were asked to sign an attendance list. At the end of each activity, records of them were made. These records were analyzed and discussed by the researchers.

## RESULTS

12 activities (meetings) were offered to a group composed of six workers with RSI/WRMSD, twice a week. Each activity lasted two hours. The first hour was coordinated by the psychologist, and the second, which included the exercises, was coordinated by the physical therapist.

**Table 1.** Characterization of workers with RSI/WRMSD, according to age, gender, educational level, and occupational situation. Uberaba, 2019.

<b>Variables</b>					
<b>Gender</b>		N	(%)		
Male		1	16.7		
Female		5	83.3		
<b>Skin color</b>					
White		4	66.7		
Others (Brown, Black, Yellow, Red)		2	33.3		
<b>Occupational situation</b>					
Employee		4	66.6		
Unemployed		1	16.7		
On leave		1	16.7		
<b>Marital Status</b>					
In a stable union					
Not in a stable union					
		Minimum	Maximum	Average	SD
<b>Age</b>		49	62	55.16	4.45

The jobs varied between seamstress (n = 1), kitchen assistant (n = 1), elderly home caregiver (n = 1), manicure (n = 1), caretaker (n = 1), and maid (n = 1). As for the occupational history, it was possible to notice that the vast majority started to work in their adolescence (n = 5). There were also reports of child labor in arduous activities that involved intense physical and mental exhaustion. Most participants (n = 4) have a job at the moment, one is on leave due to illness, and one is unemployed. Among the symptoms related to RSI/WRMSDs, all participants reported living with chronic pain that impairs the performance of work and daily activities.

The participants were also found to have work-related mental disorders. Five workers had previously diagnosed depressive episodes and one had Burnout syndrome. Workers with RSI/WRMSDs were shown to present mental suffering. In general, their main symptoms are sadness, loss of interest, and pleasure in daily activities, low self-esteem, self-confidence, guilt, and feelings of worthlessness, as well as suicidal ideation and constant crying.

Table 2 presents the descriptions of the psychosocial group activities, as well as their objectives and main results found.

**Table 2.** Description, objectives and perceived results in psychosocial group interventions. Uberaba, 2019.

Meeting	Description	Objectives	Main results
1 <sup>o</sup>	<p>Presentation of the characteristics and contractual rules of the activities.</p> <hr/> <p>Integration dynamics: firstly, participants were asked to form pairs and obtain information about their colleagues. Finally, each participant introduced their partner to the group.</p>	<p>To explain the importance of patient commitment.</p> <hr/> <p>To recognize the characteristics of the participants, aiming to establish group communication.</p>	Integration, group cohesion, as well as the expression of feelings regarding physical and mental suffering of the colleague.
2 <sup>o</sup>	Self-knowledge dynamics: workers were instructed to represent through drawings/symbols: a) How do I see myself? b) How would I like to be? c) How can I really be? Then, they were instructed to describe the meaning of their drawings/symbols.	To compare the self-perception of real and ideal body image.	In the expressions of how participants saw themselves there was a predominance of drawings/symbols related to sadness, crying, and apathy. In the expression of how they would like to be and how they could be, there were predominantly drawings/symbols related to hope and well-being, expressing self-care behaviors and the search for improvement in quality of life.
3 <sup>o</sup>	Problem solving dynamics: each participant was asked to write a problem they were experiencing and did not know how to solve, without identifying themselves. Then, the papers with the problems were mixed in an envelope and redistributed so that the participants could present solutions to their colleagues' problems.	To formulate solutions that involve overcoming the problems presented.	Family problems were the most common. It was possible to identify the formulation of collective constructive solutions, which involved attitudes of coping, persistence, patience, and changes in behavior.
4 <sup>o</sup>	Case study: from the perspective of a fictional character with symptoms of RSI/WRMSD, the following questions were asked to the participants: a) What causes the character's pain?; b) Does he like his job?; c) What does he do when he is in pain?; d) What could he have done to treat the pain?	To discuss possible ways of dealing with physical and emotional pain.	Expressions of identification with the suffering of the character. Considering that they reported that they have already done arduous work to provide for their families, causing a deterioration in their health conditions.
5 <sup>o</sup>	Self-knowledge dynamics: objects (for example, accessories, personal objects, household items) were placed in the center of a circle. Each patient was instructed to choose an object with which he tough represented himself in the past and another representing what he is today.	To compare the subject's self-perception in the past and in the present.	From the choice of objects, changes that occur in different stages of life were discussed and the importance of adapting to changes was recognized.
6 <sup>o</sup>	Guided group discussion: participants were asked about three subjects they would like to discuss. After the subjects was listed, the group, through voting, chose the topic to be addressed.	To discuss a topic of interest to the group.	Three subjects were listed: religion, unemployment, and family. Family was the most voted theme. There were frequent reports of difficulties in imposing limits on family members and participants identified the importance of adopting more assertive behaviors.

7 <sup>o</sup>	Self-knowledge dynamics: participants were divided into two groups and received a sheet of brown paper. Each group was instructed to draw the silhouette of one of the group's participants on brown paper and to represent the physical and emotional pain of the group on the silhouette using drawings, symbols or collages.	To analyze the self-perception of physical and emotional pain.	It was possible to perceive, through the drawings of knives, wounds, and bindings that expressed pain, especially in the upper limbs of the silhouettes. Although participants recognized their emotional pain, they chose to represent expressions of joy and hope on the faces of the silhouettes.
8 <sup>o</sup>	It did not happen, considering that only one patient attended the meeting.		
9 <sup>o</sup>	Guided group discussion: participants were asked about three subjects that they would like to discuss. After listing the three subjects, the group, through voting, chose the main topic.	To discuss a topic of interest to the group.	The three subjects listed were: depression, relationship with others, and anxiety. The theme "relationship with others" was chosen. The participants felt overwhelmed by taking on too many responsibilities and being overly concerned with others. They identified the importance of adopting more assertive behaviors.
10 <sup>o</sup>	"Coping with challenges" dynamic: lollipops were distributed, and participants were asked to form a circle and hold the lollipop with their right hand. After that, the coordinator told that the participants were free to taste the candy, as long as they followed the following rules: 1 - Keep the right arm always extended and the left arm back; 2 - Make movements only to the right or to the left, without flexing the arm.	To establish teamwork.	It was possible to notice that most of the participants had difficulties in realizing that they could only reach the goal if one offered the lollipop to the other. The participants related to the dynamics the fact that they often try to perform daily and work tasks alone, without asking for and/or receiving help from others. According to them, this generated physical and emotional exhaustion, contributing to the appearance of illnesses.
11 <sup>o</sup>	"Activity evaluation": the participants were invited to expose what they learned during the meetings, completing the following sentence: I learned that (...).	To analyze the results obtained through the project.	Behavioral changes were reported regarding the development of social skills and the adoption of a more assertive posture in the face of problems.
12 <sup>o</sup>	Confraternization: a collective breakfast was organized by the professionals and participants.	To celebrate the evolution of workers and propose new group intervention activities.	Most workers highlighted their own evolution and improvement in psychological and RSI / WRMSD symptoms and expressed their interest in continuing to participate in interdisciplinary group intervention activities.

## DISCUSSION

Most participants were female. The high prevalence of musculoskeletal disorders in women can be associated with the fact that female workers, in addition to performing labor activities, are responsible for housework and family tasks. In addition, female workers are more likely to have informal jobs, which involve precarious working conditions<sup>18</sup>. This reality can also contribute to a higher rate of mental disorders.

It was possible to identify that the participants, for the most part, had a low educational level and, therefore, had jobs that, in general, required little qualification. Other studies conducted in Brazil show a prevalence of RSI/WRMSD in workers with low educational levels<sup>19,20</sup> and in jobs that require little qualification and are underpaid, like maids, general services, and seamstresses<sup>20</sup>. Such results show the need to implement intervention measures that enable the strengthening of health surveillance actions for workers who perform activities in which repetitive movements, absence of rest breaks and stressful and competitive environments predominate.

Regarding the occupational history of the participants, it was possible to notice that the vast majority started working during adolescence, in arduous and painful jobs. There are several problems faced by adolescents in their work environments, including low pay, many worked hours and precarious work and employment relationships what considerably influence their health. However, even though they are aware of the health problems present in their reality, adolescents are unable to take proper care of themselves due to the threat of losing their jobs<sup>21</sup>.

It is important to highlight that, despite the current condition of physical and mental illness of the participants, it was possible to notice that most of them remain active in the job market. This is probably because each subject reacts differently to the pressures in their occupational environment, and many hid their own suffering to avoid the judgment of management, fear of dismissal, and the prejudice from coworkers<sup>22</sup>.

Among the reports of suffering in those attended by the group, intense chronic pain stands out. As the disease tends to evolve slowly and is only perceived by the worker when it is already at an advanced level, these workers hide it for fear of losing their job or for fear of punishment<sup>23</sup>.

However, these symptoms when they get worse, end up preventing the worker from developing his activities. Thus, persistent pain, physical disability, concerns about the chronic nature of the disease, loss of importance in the social, professional, and family environments, economic losses, and the feeling of abandonment are factors that contribute to the emergence of negative feelings that involve fear, anguish, anxiety, and depression<sup>24-25</sup>.

Thus, the isolated care of patients with RSI/WRMSD by professionals from different areas is insufficient to address all affected aspects in an integrated and efficient way. Thus, a team with a Physical therapist and Psychologist, with an interdisciplinary approach, is essential, due to the complexity and multifactorial nature of these injuries<sup>26</sup>.

This study found that, from the development of group interventions, with a Physical therapist and a psychologist, it was possible to find positive reactions from workers in relation to interdisciplinary activities. The positive feedbacks obtained from the participants reinforce that interdisciplinary action can provide a space for reflection and socialization for sick workers, as well as changing the way they see and deal with the limitations imposed on them by the disease, contributing to the adoption of a proactive attitude in the search for recovery<sup>26</sup>.

Interventions coordinated by the physical therapist found that, initially, it was difficult to perform the exercises, due to pain. However, reports of the results of kinesiotherapy indicated a reduction in pain, improvements in the general condition and physical functions, increased flexibility, and muscle strength.

When analyzing the interventions coordinated by the psychology professional, the problems in the relationship with family members were identified as the main complaints of

the participants, since, from the worsening of musculoskeletal diseases related to work, the responsibilities of each family member change, implying in the distribution of household chores and other family responsibilities. Women affected by RSI/WRMSD show themselves to be extremely concerned about not being able to do housework and take care of their children and husband. Thus, there were frequent reports, during the group activities, of participants who insisted on doing housework, leading to increased pain and to the need of using more analgesic medication<sup>27</sup>.

From these complaints regarding family, it was possible to notice that the lack of family support may be contributing to worsen the suffering of the workers. Support can be understood as a manifestation of attention, affection, dialogue, freedom, emotional closeness, and autonomy between family members. It can be identified as an agent to protect the individual against the risk of mental illness and to help against stressful events<sup>28</sup>. It is important for health services (especially public ones) to promote a greater involvement of family members in the treatment of workers affected by musculoskeletal diseases and work-related mental disorders.

The interventions indicated behavioral changes regarding the development of social skills and the adoption of a more assertive attitude, which can be essential to adequately manage the demands of social interactions, leading to changes in situations that were unfavorable for the individual. This is important because assertive responses are more socially competent than passive or aggressive postures<sup>29</sup>.

Furthermore, the group approach in workers' health allowed the participants to share anxieties and fears in the face of difficulties and to strengthen the bond and relationships of trust between the participants and the professionals who conducted the activities. This enabled the creation of individual strategies and collective actions that contributed to coping with suffering<sup>30</sup>.

The relevance of this experience for the university became clear in the possibility of carrying out an intersectoral activity, involving education, research, and extension, which are the main pillars of the public university in Brazil<sup>31</sup>.

The importance of multidisciplinary and interinstitutional interventions in the workers' health area is emphasized in actions that include the patients, that value human potential and provide opportunities for their growth and recognition through the implementation of innovative health promotion practices.

The institutional partnership between CEREST/Uberaba and the Physical therapy graduation and post-graduation courses at UFTM has proven to be useful to the University, given that it contributes to the teaching, research, and extension processes. It has also been especially important for CEREST because it minimized the difficulties in carrying out actions to promote worker health, since the team of this service is small and is not always able to meet the demands presented.

Among the limitations in this experience report, it is important to highlight that the results presented refer to the professionals' perceptions found through the reports of workers who participated in group activities. Thus, for the next group interventions, professionals involved should use instruments that allow more careful and systematic evaluations of the effectiveness of the interventions.

## CONCLUSION

Among the contributions offered by this study, this experience may serve as a basis for the development of interventions with an interdisciplinary approach in other public health services, especially in occupational health, aiming to offer comprehensive care to people affected by RSI/WRMSD .



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### CONTRIBUTIONS

**Jéssica Carvalho Lima** and **Isabel Aparecida Porcatti de Walsh** contributed to the conception, analysis and interpretation of data, writing and critical review of the manuscript. **Alline Alves de Sousa**, **Thais de Souza Toledo**, **Edneia de Oliveira Salum** and **Camila Soares** participated in data collection, analysis and interpretation, writing and review.

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