



ORIGINAL

Prevalence of self-perceived musculoskeletal pain and its association with gender in teleworkers of the management team of a Venezuelan food manufacturing company

Prevalencia del dolor músculo esquelético auto-percibido y su asociación con el género en teletrabajadores/as del tren gerencial de una empresa manufacturera de alimentos venezolana

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ABSTRACT

Objective: to determine the prevalence of self-perceived musculoskeletal pain and its association with gender in teleworkers of the management team of a Venezuelan food manufacturing company.

Methods: a quantitative, field, descriptive, and cross-sectional study was conducted in a population of 243 workers and a sample of 182 workers. The survey was used as a data collection technique, and the questionnaire was developed using Google Forms® as an instrument.

Results: the age range was between 20 and 73 years, with a mean of 45,8±9,1 years. Women (43,0 %) had more than 10 years of seniority, a lower percentage than that observed among men (50,0 %). Regarding self-perceived pain, (92,59 %) of women reported more pain than men (81,68 %); the probability of presenting neck pain in this group was (85,8 %). In contrast to men (38,93 %), 69,14 % of the women self-perceived right shoulder pain; the probability of presenting right shoulder pain in the sample studied was 50 %. Concerning upper back pain (48,15 %) of the women and 33,59 % of the men, the probability of presenting upper back pain was 39,2 %. The mean total musculoskeletal pain or discomfort score was 59,13 for women and 39,94 for men.

Conclusion: there was a statistically significant association between self-perceived pain in certain areas of the body and female gender for exposure to disergonomic risk factors.

Keywords: Covid-19; Workers; Telework; Musculoskeletal Pain.

RESUMEN

Objetivo: determinar la prevalencia del dolor músculo esquelético auto-percibido y su asociación con el género en teletrabajadores/as del tren gerencial de una empresa manufacturera de alimentos venezolana.

Métodos: se realizó un estudio cuantitativo, de campo, descriptivo y transversal, en una población de 243 trabajadores y una muestra de 182 trabajadores. Como técnica de recolección de datos se utilizó la encuesta y como instrumento el cuestionario, desarrollado bajo la aplicación Google Forms®.

Resultados: el rango de edad estuvo comprendido entre 20 y 73 años, con una media de 45,8±9,1 años. Las mujeres, (43,0 %) tenía más de 10 años de antigüedad, un porcentaje inferior al observado entre los hombres (50,0 %). En relación con el dolor auto-percibido el (92,59 %) de las mujeres refirieron dolor en mayor

proporción que los hombres (81,68 %); la probabilidad de presentar dolor en cuello en este grupo fue de (85,8 %). El 69,14 % de las mujeres auto-percibieron dolor en hombro derecho a diferencia de los hombres (38,93 %); siendo la probabilidad de presentar dolor en hombro derecho en la muestra estudiada 50 %. En relación al dolor en espalda alta, (48,15 %) de las mujeres y 33,59 % de los hombres; la probabilidad de presentar dolor en espalda alta fue 39,2 %. La media de la puntuación total de dolor o malestar musculoesquelético fue de 59,13 para las mujeres y de 39,94 para los hombres.

Conclusión: hubo asociación estadísticamente significativa entre el dolor auto-percibido en ciertas zonas del cuerpo y el género femenino por exposición a factor de riesgo disergonómico.

Palabras claves: Covid-19; Trabajadores; Teletrabajo; Dolor Musculoesquelético.

INTRODUCTION

Throughout history, diseases generated by viruses that have evolved into pandemics, as summarized by González⁽¹⁾ "have caused the loss of hundreds of millions of people and on several occasions have substantially modified the history of human beings and the way we live". In addition, the author considers that it has been indisputable that the pandemic caused by Covid-19 (Coronavirus Disease-19), "took the world population by surprise, as well as it became evident the existing deficiencies in all aspects of economic, social, political, educational and health".^(1,2,3)

Indeed, pandemics have differential effects on women and men; from the risk of exposure and biological sensitivity to infection to the social and economic consequences; people's experiences are likely to vary according to biological and gender characteristics and their interaction with other social determinants. Consequently, the health of women and men, as stated by Delgado et al.⁽⁴⁾ "is different and unequal"; it is different due to factors that influence people's health, such as biological, genetic, physiological and hereditary factors, and it is unequal because there are social and cultural factors that manifest themselves differently in the health and risk of illness of the collective.

In this sense, one of the consequences of the Covid-19 pandemic is that it highlighted gender differences; in this regard, Díaz⁽⁵⁾ states: "it is believed that everything that has been achieved in terms of gender equity has regressed and that women are being more affected in all aspects of economic, social, labor and health". Therefore, the effects caused by the pandemic have had a greater impact on their health, since they have been more responsible for economic, work and household activities, which have increased with the confinement, since they had to take care of the children, their school activities, among other activities that they had to develop both inside and outside the home.

It is evident, then, that the discussion on women's health from an occupational perspective is important given the particular employment conditions of women workers, which, as Delgado et al.⁽⁴⁾ consider, "determine specific risks, due to the way in which their different work activities are developed". In short, in recent decades there have been significant changes in the organization of work, if we add to this the Covid-19 pandemic that brought with it the adoption of telework in many organizations, bringing with it the precariousness of employment conditions, the increase in emerging occupational risks with their consequences in the area of workers' health.

Therefore, as discussed at the Assembly of the Executive Board of the World Health Organization⁽⁶⁾:

"global and national strategic plans for preparedness and response to Covid-19 should be based on a sound gender analysis and ensure meaningful participation of affected groups, including women, in decision making and implementation."

Thus, to evaluate the health of female workers it is necessary to add indicators such as work-family interaction, working conditions and environment, ergonomic evaluations, double presence or triple workday, without leaving aside the effects left by the Covid-19 pandemic and how it has influenced their lives and therefore their health, in order to present a systemic and intersectional vision.

In the framework of the above observations, workers, as described by Ron et al.⁽⁷⁾, who abruptly changed the work in the office for telework "did not have adequate equipment and working conditions in their homes, instead they organized offices with inadequate furniture and equipment, such as non-adjustable chairs, without armrests, monitors with low heights and improvised tables".

It is appropriate to consider that ergonomics as a discipline seeks to study the best conditions for workers in order to adapt machinery, equipment and tools to their anthropometry or physiognomy. In this sense, Márquez⁽⁸⁾ refers that ergonomics "Is a multidisciplinary activity that seeks to strengthen the capabilities and limitations of workers to be used in the design of tasks, workplaces, equipment and everything that has to do with their work environment". Within this group of multidisciplinary activities, measurements of the anthropometric variables of the workers, tending to improve the design of the workplace and therefore their health and labor stability,

are of great importance.

Moreover, in the case of teleworkers, they face, as described by García et al.⁽⁹⁾, a new challenge, "apart from the normal workload, setting up an ergonomically correct workstation and in most cases without the appropriate ergonomics knowledge to do so". Therefore, it is safe to say that this sudden change in the organization of work could have an impact on the musculoskeletal health of workers).

As described above, Musculoskeletal Disorders (MSD), according to Caraballo⁽¹⁰⁾ are:

"The most prevalent in countries with high industrial development, as well as in developing countries or countries with accelerated industrial growth. This, of course, has an impact on the quality of life of all countries, being the Latin American countries the most concerned, as they must adapt their anthropometry to machines, equipment and tools that come from other countries very different to their physiognomy or musculoskeletal structure".

In reference to the subject above, some research highlights, as Caraballo⁽¹⁰⁾ refers, "...a higher prevalence of MSDs in women"; likewise, there are studies contributed by Márquez⁽⁸⁾ that highlight "a higher incidence of muscle pain in women than in men both in the industrial world and in general." In this regard, it is necessary to consider aspects such as the sexual division of labor and the differential assignment of tasks by sex; thus, all the implications of the job position occupied by women and the position assigned to men. Therefore, it is important to consider "beyond the risks associated with biological differences, to establish more equal conditions for men and women and that they can measure their musculoskeletal conditions in their workplaces".

Based on the previous considerations, the objective of this research was to determine the prevalence of self-perceived musculoskeletal pain and its association with gender in teleworkers of the management team of a Venezuelan food manufacturing company.

METHODS

The research was conducted within the positivist, field research paradigm with a quantitative, descriptive and cross-sectional approach, in a population of 243 workers of the managerial team, at national level, of a Venezuelan food manufacturing company. Through a non-probabilistic purposive sampling, the sample consisted of 182 (74,9 % of the population) teleworkers who met the inclusion criteria: teleworkers who expressed pain at the application of the questionnaire during the research, used the computer in a period of time of 3 or more hours a day for the execution of their activities and who wanted to participate in the study. In addition, all teleworkers who suffered from any type of chronic musculoskeletal pain in the last 3 months were excluded.

Data were collected in the period between September 2021 and January 2022, through a questionnaire developed under the Google Forms® application, where an online link was generated and shared via WhatsApp® to the participants.

This questionnaire was divided into 2 parts: the first part consisted of informed consent and the selection of questions related to sociodemographic and labor data, such as age, sex and seniority at work, the latter related to the time that the workers had been working in the company; years of computer use, which corresponds to the number of years that the workers have used a computer to perform activities; daily hours of computer use, which corresponds to the number of hours that the workers use a computer per day to perform their tasks. Continuous hours of computer use without breaks or rest, defined as the time in which a worker uses computers without scheduled or unscheduled breaks in a workday, and knowledge of office ergonomics, which corresponds to prior training of workers on ergonomics in office environments, either in the correct location of work elements and knowledge of postural hygiene.

The second part of the questionnaire collected the musculoskeletal symptomatology of the participants through the Cornell MS Musculoskeletal Pain or Discomfort Questionnaire (CMDQ) instrument recommended by Hedge et al.⁽¹¹⁾, for sedentary workers in its male and female version.

This questionnaire has 54 items related to the prevalence of musculoskeletal pain or discomfort in 18 regions of the body (neck, shoulders, upper back, lower back, arms, forearms, wrists, hips/ankles, thighs, knees and calves) and is divided into three sections (frequency of discomfort, severity and interference of discomfort with ability to work) with a specific rating scale.

The frequency, severity and interference scores were used to calculate the total musculoskeletal pain or discomfort score per worker using the following equation.

$$Pt = \sum_{i=1}^i FixSixIi \quad (1)$$

Where Fi is the discomfort frequency score, Si is the discomfort severity score and Ii is the interference score in a specific part of the body. At the end, Pt (total score) was obtained, which is the summation of the musculoskeletal pain or discomfort scores specific to each body area reported by each participant. This

composite estimator can reach ranges between 0 and 90 points.

SPSS 26® software was used for statistical analysis of the data. The Kolmogorov-Smirnov test was used to determine whether the data have a normal distribution, and the Student's t-test was also applied to see the gender differences based on the total score of musculoskeletal pain or discomfort (obtained through the Cornell Musculoskeletal Pain or Discomfort Questionnaire), and the chi-square test of association of variables was used, based on a confidence interval of 95%; The statistical significance ($p \text{ value} \leq 0.05$) was also used to determine the associations between work-related factors (length of service, years of computer use, hours of daily computer use, hours of computer use without rest) and musculoskeletal pain and sex.

RESULTS

The subjects who participated ranged in age from 20 to 73 years, with a mean of $45,8 \pm 9,1$ years. The mean age was higher among men ($46,1 \pm 9,5$) than women ($45,3 \pm 8,7$). Among women, 43,0 % had more than 10 years of seniority, a lower percentage than that observed among men (50,0 %).

Table 1. Socio-occupational characteristics in workers with musculoskeletal pain of the managerial train in telework modality of a food company. Year 2022

Variable	Frequency (%)		Mean \pm Standard Deviation
	Woman (n=75)	Man (n=107)	
Age group (years)			45,8 \pm 9,1
20-29	1(1)	3(3)	
30-39	21(28)	19 (18)	
40-49	30 (40)	57 (53)	
50-59	19 (25)	19 (19)	
Over 60	4(5)	9 (8)	
Seniority (years)	9,99 \pm 8,1	11,29 \pm 9,08	10,75 \pm 8,7
Under 10	43 (57)	54 (50)	
Over 10	32 (43)	53(50)	
Years of computer use			23,3 \pm 6,8
Under 20	34 (45)	42 (39)	
Over 20	41 (55)	65 (61)	
Hours of daily computer use			7,4 \pm 3,0
Under 7	9 (12)	15 (14)	
Over 7	66 (88)	92 (86)	
Hours of uninterrupted computer use			4,54 \pm 1,1
Over 3	13 (17)	17 (16)	
Under 3	62 (83)	90 (84)	
Knowledge in ergonomics			
Yes	10 (13)	23 (21)	
No	65 (87)	84 (79)	

Prevalence of musculoskeletal pain or discomfort

In relation to self-perceived neck pain, it was observed that 92,59% of the women reported this symptomatology in relation to the men (81,68 %); therefore, the probability of presenting neck pain in this group of teleworkers was 85,8 %. In the sample surveyed it was identified that 69,14 % of the women self-perceived pain in the right shoulder as opposed to men (38,93 %); the probability of presenting pain in the right shoulder in the sample studied was 50 %. Among other areas of pain, the sample self-perceived upper back pain, 48,15 % of the women and 33,59 % of the men; the probability of presenting upper back pain in these teleworkers was 39,2 %. It is worth mentioning that 38,20 % of the sample studied was represented by women.

However, with a $p \leq 0,05$ there was a statistically significant difference between the two genders and self-perceived pain in the neck, right shoulder and upper back; thus, with 95% confidence it is affirmed that there was a statistically significant association between self-perceived pain in these areas of the body and the female gender due to exposure to dysergonomic risk factors.

It was also estimated that at least 11 % of the teleworkers surveyed who perceived neck pain was due to

exposure to a dysergonomic risk factor. In the case of pain in the right shoulder the estimate was 30 % and 15 % for self-perceived pain in the upper back.

In relation to the self-perceived pain, by this group of teleworkers, in low back, right arm, left forearm, right hand and left hand, although there was no statistically significant difference between the female and male gender and dysergonomic risk factor, the female gender in greater proportion self-perceived pain in these areas in relation to the male gender, as shown in table 2.

Table 2. Frequency, Severity and Interference of musculoskeletal pain or discomfort by body region in workers of the managerial team in telework modality of a food company. Year 2022

Variable	Pain	Woman		Man		Chi ²	RA	Rabs
		f	%	f	%			
Neck	YES	75	92,5	107	81,68	4,91	11 %	85,8 %
	NO	6	7,41	24	18,32			
Right shoulder	YES	56	69,14	51	38,93	18,27	30 %	50,0 %
	NO	25	30,86	80	61,07			
Left shoulder	YES	13	16,05	26	19,85	0,48	-4 %	18,4 %
	NO	68	83,95	105	80,15			
Upper Back	YES	39	48,15	44	33,59	4,45	15 %	39,2 %
	NO	42	51,85	87	66,41			
Lower Back	YES	58	71,60	83	63,36	1,53	8 %	66,5 %
	NO	23	28,40	48	36,64			
Right arm	YES	16	19,75	22	16,79	0,30	3 %	17,9 %
	NO	65	80,25	109	81,68			
Left arm	YES	9	11,11	17	12,98	0,16	-2 %	12,3 %
	NO	72	88,89	114	87,02			
Right forearm	YES	24	29,63	39	29,77	0,00	0 %	29,7 %
	NO	57	70,37	92	70,23			
Left forearm	YES	23	28,40	25	19,08	2,48	9 %	22,6 %
	NO	58	71,60	106	80,92			
Right hand	YES	48	59,26	64	48,85	2,17	10 %	52,8 %
	NO	33	40,74	67	51,15			
Left hand	YES	41	50,62	55	41,98	1,51	9 %	45,3 %
	NO	40	49,38	76	58,02			

Expected Chi² = 3,84; IC = 95%; $p \leq 0,05$; V = 1

The mean total score for musculoskeletal pain or discomfort was 59,13 for women and 39,94 for men. When testing whether there were differences in the total score between women and men, it was found that there were statistically significant differences between the means of the two groups (table 3).

Table 3. Gender and Musculoskeletal Pain Total Score

	Gender	Mean	Levene's test		T-test	
			F	Sig.	T	Sig.
Musculoskeletal pain	Female	59,13	1,89	0,171	0,369	0,000
	Male	39,94				

DISCUSSION

The cracks that have developed in relation to the labor market participation of men and women, as cited by Labrador et al.⁽¹²⁾ "have remained at a margin of more than 26 % over the last 30 years". This generates an unequal distribution of labor between both sexes, where the existence of the sexual division of labor is evident, segregating women to certain trades or tasks. All these factors surrounding the sexual division of labor have resulted in characteristic occupational health profiles, where patterns of illnesses or even self-perceived discomfort or injuries by sex are evident, which, among other pathologies, lead to musculoskeletal discomfort

and pain. Consequently, as Carballo⁽¹³⁾ points out, there is a high prevalence and incidence of musculoskeletal disorders. According to the author, the highest prevalence of these disorders is found among women. In the case of research carried out by Márquez⁽¹⁴⁾, it reflects a higher incidence of muscle pain in women when comparing said incidence with men, both at a general level and at the work level, which coincides with the findings of the present study. So, from a gender perspective, teleworking brought with it advantages and disadvantages for the female gender, as Sanchez et al.⁽¹⁵⁾ point out, it allowed them to keep their jobs, to be close to the family; as well as making domestic and care work invisible, since the home became the new work center. So the adoption and implementation of teleworking, today is an urgent challenge for occupational health, which should be evaluated from the perspective of gender and ergonomics because of the health effects that it could be generating, due to the new and emerging risks arising from teleworking and that are mainly affecting teleworkers, as evidenced in this research work.

It is evident then, that the discussion about the health of women from the perspective of labor, is important given the particular conditions of employment of teleworkers, which, as considered by Delgado et al.⁽⁴⁾ "determine specific risks, because of the way in which they develop their various work activities", which today must be combined simultaneously with the extra-labor activities in the same space. In this context, it has turned out to be an indisputable necessity to approach the reality of the teleworkers, that allow to evaluate the conditions of work and life from the look of gender and ergonomics, facing the design of policies of humanitarian response, as one more edge of a set of points of analysis or indicators of integral health; that in turn, are inserted in a great framework of economic, social and political conditions that transverse them.

CONCLUSION

In the present study it was confirmed that there was a statistically significant difference between the two genders and the self-perceived pain at the level of neck, right shoulder and upper back; also, there was a statistically significant association between self-perceived pain in these areas of the body and the female gender due to exposure to dysergonomic risk factor. It was also estimated that the teleworkers surveyed who perceived pain in the neck was due to exposure to dysergonomic risk factor.

In relation to the self-perceived pain, by this group of teleworkers, in the lower back, right arm, left forearm, right hand and left hand, although there was no statistically significant difference between the female and male gender and dysergonomic risk factor, the female gender in greater proportion self-perceived pain in these areas in relation to the male gender.

In this sense, the incorporation of gender in the labor area is today a challenge that cannot be postponed. Terán and González⁽¹⁶⁾ reported that "the struggles of feminist women around the world have managed to position agendas and open spaces for discussion and reflection on the achievement of gender equity in the labor area". Incorporating the gender perspective in ergonomic studies allows us to segregate the working population according to gender and sex and thus determine the specific occupational risks to which they are exposed, which would facilitate the adaptation of jobs according to sex and implement strategies to reduce the prevalence of MSDs; this would not only benefit female teleworkers but also men.

In other words, it is very important to identify the conditioning factors that influence the epidemiological profile of teleworkers. This vast and unexplored experiential world that needs to be explored in order to humanize occupational health knowledge and practices. Under this new paradigm, a health care that is permanently nourished by the symbolic world of the others must be born in order to adjust and adopt preventive measures of education and health promotion in the work area, in accordance with the complexity of individual and collective health. In addition to a view that leads to a situational strategic planning, with the purpose of starting from needs felt from the gender itself.

BIBLIOGRAPHIC REFERENCES

1. González-Toapanta HG. Pandemias en la historia: La peste negra y la gripe española, covid-19 y crisis capitalista. *Revista de Ciencias Sociales y Humanidades Chakina*. 2021; (14), 130-145. <https://doi.org/10.37135/chk.002.14.09>
2. Hernández-Runque E. Ron M. Sánchez, L. V. Escalona, E. Ogolodom, M. P., & Mbaba, A. N. Impact of the COVID 19 Pandemic on Health Care Workers in Latin America and the Caribbean. *International Journal of TROPICAL DISEASE & Health*, 2022; 43 (6), 25-31. <https://doi.org/10.9734/ijtdh/2022/v43i630596>
3. Ron M. Algunas reflexiones en torno al impacto de la infección por COVID-19 en los trabajadores sanitarios. *Salud de los Trabajadores*, 2020; 28(2), 161-165.
4. Delgado A, Abellana M. Mujer y salud: una mirada desde lo laboral. *Revista Facultad de Ciencias Jurídicas y Políticas*. 2009; (5), 503-530.

5. Díaz-Niño M. La salud de la mujer frente a la pandemia. México: Partido Acción Nacional. 2021. [Internet]. <https://www.pan.org.mx/>
6. Organización Mundial de la Salud. Fortalecimiento de la Preparación Frente a Emergencias Sanitarias; Aplicación del Reglamento Sanitario Internacional (2005), Proyecto de Resolución EB146/CONF./17 de la 146ª Reunión del Consejo Ejecutivo de la OMS. 2020. Ginebra: Autor. https://apps.who.int/gb/ebwha/pdf_files/EB146/B146_CONF17-sp.pdf
7. Ron M, Escalona E. Teletrabajo y auto-percepción de dolor músculo-esquelético en tiempos de Covid-19. Caso empresa venezolana. *Revista Salud de los Trabajadores*. 2022; 30(1), 151-162.
8. Márquez C. Ergonomía: Fundamentos de ergonomía Industrial. Táchira -Venezuela: Fondo editorial UNET. 2015.
9. García M, Aguiar B, Bonilla S, Yépez N, Arauz P, Martín B. Perceived physical discomfort and its associations with home office characteristics during the COVID-19 pandemic. *Human Factors*. 2022; 1-17. Disponible en: <https://doi.org/10.1177/00187208221110683>
10. Caraballo-Arias Y. Epidemiología de los trastornos músculo-esqueléticos de origen ocupacional. En: Echezuría L, Fernández M, Rísquez A, Rodríguez-Morales A. *Temas de Epidemiología y Salud pública*. Tomo II 1º ed., Venezuela. EBUC. 2013. p. 745-764. https://www.researchgate.net/publication/291165356_Temas_de_Epidemiologia_y_Salud_Publica_Tomo_II
11. Hedge A, Morimoto S, McCroibe D. Effects of keyboard tray geometry on upper body posture and comfort. *Ergonomics*. 1999; 42(10), 1333-1349. <https://doi.org/10.1080/001401399184983>
12. Labrador A., Meza-Palma D., Zavala-Plaza M. y Valdenegro-Cáceres R. Salud laboral y desigualdades desde la perspectiva de género. *Comunidad y Salud*. 2021; 19(2), 61-67.
13. Caraballo-Arias Y. Epidemiología de los trastornos músculo-esqueléticos de origen ocupacional. En: Echezuría L, Fernández M, Rísquez A, Rodríguez-Morales A. *Temas de Epidemiología y Salud Pública*. Tomo II 1º ed., Venezuela. EBUC 2013. P. 745-764. http://www.mundocupacional.com/descargas/articulos/Epidemiologia_trastornos_musculosqueleticos_origen_%20ocupacional.pdf
14. Márquez C. Ergonomía. Fundamentos de ergonomía industrial. Editorial UNET. Decanato de Investigación. Universidad Nacional Experimental del Táchira. Estado Táchira. Venezuela. 2015
15. Sánchez L. y Cabeza J. Mujeres trabajadoras, teletrabajo y ocio en pandemia. *Revista Salud de los Trabajadores*. 2022; 30(1), 73-77.
16. Terán I, González M. El saber y la práctica médica desde el discurso de los residentes de postgrado en medicina general integral de dos municipios del Estado Aragua. *Revista comunidad y salud*. 2008; 6(1), 14-22.

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