

Psychosocial factors and symptoms of stress in workers of a tire manufacturing company, Jalisco, Mexico

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Abstract

The objective of this study was to increase the knowledge of social and labor stressors that make up one of the main causes of occupational hazards. A census was conducted on the 60 workers of a tire manufacturing company. The study was descriptive, transversal and analytical. The presence of psychosocial factors was expressed by 49.1% of operational workers, the prevalence of stress symptoms in 36.4%. In the results of the relationship between psychosocial factors with the symptoms of stress and being sick, the two highest significant correspondences are observed in "Labor requirements" and "Job role and career development" with being sick, both with a $p = 0.007$.

Keywords: Psychosocial factors, stress, tire manufacturing company.

Factores psicosociales y síntomas de estrés en los trabajadores de una empresa de fabricación de neumáticos, Jalisco, México

Resumen

El objetivo de este estudio fue abundar en el conocimiento de los estresores sociales y laborales que componen una de las principales causas de riesgos en el trabajo. Se realizó un censo en los 60 trabajadores de una compañía de fabricación de neumáticos. El estudio realizado fue de carácter descriptivo, transversal y analítico. La presencia de factores psicosociales la manifestó el 49.1% de los trabajadores operativos, la prevalencia de síntomas de estrés en un 36.4%. En los resultados de la relación entre los factores psicosociales con los síntomas de estrés y estar enfermo, se observa las dos correspondencias significativas más altas en "Exigencias laborales" y "Papel laboral y desarrollo de la carrera" con estar enfermo, ambas con una $p=0.007$.

Palabras clave: Factores psicosociales, estrés, empresa fabricante de neumáticos.

Recibido: 02 de abril de 2019
Aceptado: 23 de septiembre de 2019

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I. INTRODUCCIÓN

At some point, within the work environment, workers may suffer accidents or occupational diseases as a result of prolonged and constant exposure to risk factors such as psychosocial factors. Work related stress has manifested itself as one of the main consequences of this exposure, which can affect the health and integrity of the worker. The relationship between psychosocial factors and work stress has already been described, however, a vulnerable but little studied population, the workers in charge of tire manufacturing.

As Oramas (2013) says, psychosocial factors are analyzed because they are a variable related to "psychic life and the conditions under which activity takes place" and to work stress because it is a variable that "expresses a quality, is subjective and is related between the individual and his environment".

From the proposed definitions for psychosocial risk factors such as the International Labor Organization (ILO) and the World Health Organization (1986), defines psychosocial factors as "the interactions between work, its environment, satisfaction at work and the conditions of their organization, on the one hand, and on the other, the worker's abilities, their needs, their culture and their personal situation outside of work, all of which, through perceptions and experiences, can influence health and performance and job satisfaction (ILO-WHO, 1984-1986). Diverse are the authors who in their studies have proposed this definition for the analysis of its variables.

Also the ILO (1986) assures that work-related stress is "the relationship that the individual may have to the demands, and work pressures that do not adjust to their knowledge and abilities and that test their ability to cope with the situation", In a few words, "the stress appears when this pressure becomes excessive or difficult to control, "authors such as Peiró and Rodríguez (2008) and Castañeda, Colunga, Preciado, Aldrete and Aranda accept (4). From this point of view and following the World Health Organization (1984) a healthy work environment "is not only where there is absence of harmful circumstances, but abundance of factors that promote health; is one in which health and the promotion of health are a priority for workers and are part of their work life", so, the "dangerous

"causes as called by Leka and Stavroula (2004) related to stress and that mostly come from the way in which work is defined and the way it is managed, are divided into: those related to the characteristics of the job (job characteristics, volume and pace of work, work schedules, participation and control), and those related to the labor context (professional perspectives, status and salary, role in the entity, interpersonal relationships, institutional culture, relationship between work and family life).

Concepts similar to those proposed by the ILO-WHO can be found in the literature, such as the definition of the European Commission (2002) that requires it as "a pattern of emotional, cognitive, physiological and behavioral reactions to certain adverse or harmful aspects of the content of work, organization of work and the working environment. It is a state characterized by high levels of excitement and response and the frequent feeling of not being able to face them", and in which their causes or risk factors are similar to those already mentioned (European Commission, 2002).

Recently, in the 2016 World Day of Safety and Health at Work, the ILO (2016) has indicated that attention to psychosocial risk factors is a global problem that affects all workers in both developed and developing countries. In development, so the approach is to encourage employees and employers to generate commitments such as: improvement of social relations at work, mutual support, prevention of acts of harassment, harassment or mistreatment, generation of skills, and improvement of working conditions and productivity (Día Mundial de la Seguridad y Salud en el Trabajo, 2016).

For this, the objective of the study was to make known this relationship of variables between psychosocial factors and symptoms of work stress in the workers of a tire manufacturing company in Jalisco, Mexico.

II. MATERIAL AND METHODS

Type of study

A descriptive, transversal and analytical research was designed, the work context being a company dedicated to the manufacture and export of tires. Virtually began its activities in 2005, is currently a company with high global competitiveness as well as its distribution, produces between 18 to 25 thousand

tires daily. It consists of raw material warehouse, bambury (mixed pigments), eseelastic (cutter), high pad, tabulators and calenders, assembly, presses, final finishing and finished product warehouse. The people who work in the cooperative are 1600, the 3 shifts are worked, the days are 8 hours from Monday to Friday and shifts are rotated every 3 weeks.

Study population

The study population included for the analysis were the workers of only two of the areas of the company: final finishing and vulcanization, corresponding to 60 subjects (census) that participated voluntarily and under informed and signed consent, eliminating the workers who for some reason he had to leave the study, or the surveys were not answered in full.

Despite being a company dedicated to the manufacture of tires and that would normally be expected to see only men working, it is observed that women do, so that of the 60 subjects who participated in the study, a higher percentage was observed for the men 83.6% against 16% women, the minimum age was 17 years with a maximum of 58, the most frequent marital status was that of married 50.9%, followed by singles 38.2%, the rest were free union, separated or divorced.

The highest seniority in the position varied from 4 years to one year, six months, with 9.1% at three years, 3.6% at two years and 1.8% at one and a half years. The seniority of the company was observed differently, it ranged from 10 to 7 years, with the highest percentages being 10 years (9.1%) followed by those of 9 years (5.5%) and those of seven years with a 3.6%.

Evaluation instruments

In the study, three questionnaires were applied: the first included socio-demographic and labor variables; the second was the symptomatic stress scale of Seppo Aro-ESE (9,10) and, as a third instrument, the adapted scale of psychosocial factors of Silva Gutiérrez (2006).

The scale of symptoms of Stress, Seppo Aro (ESE) (1980) contains 18 items associated with stress states, psychosomatic, emotional, or conative. Examples of these symptoms are: "palpitations or irregular heartbeats", "irritability", "anger", "fatigue or weakness". The answers are expressed in an

ordinal scale of four frequencies, which are evaluated from 0 to 3, for which the possible annotations fluctuate between 0 and 54, so that a scale with scores of 0-8 is considered as "normal stress", From 8 to 10 as "tendency to stress" and scores greater than 10 is considered as "pathological stress" (Roman, J., 2003). This instrument was validated by finding reliable validity data with a Cronbach's alpha of 0.88 (Colunga, C., Enríquez, C., González, M., & Domínguez, R., 2008).

The instrument or scale of Psychosocial Factors in the Work of Silva (2006) consists of a list of agents grouped in 7 areas: a) conditions of the workplace; b) workload; c) content and characteristics of the task; d) work demands; e) role of the academic and career development; f) social interaction and organizational aspects; and g) performance compensation. The instrument uses a 5-degree Likert-type frequency scale that goes from 0 (never) to 4 (always), the scores of each section are added and three categories are determined: low, medium and high which are categorized by each one of the subscales and globally. This instrument has also been validated by Colunga et al (2008) with Cronbach's alpha values of 0.83.

Statistic analysis:

Frequencies, percentages, averages and prevalences were obtained, as well as relationship values with a significant value of p equal to or less than 0.05.

Ethical aspects:

The present study is considered risk-free category one (Norma Oficial Mexicana, 2016). The participation of the respondents was voluntary signing with informed consent

III. RESULTS

Considerable is the prevalence of stress symptoms (36.4%) that this working population presents (figure 1). According to Seppo Aro symptomatic stress scale, the prevalences for symptoms with higher percentages range from acidity or burning in the stomach, headaches, nervousness or anxiety, fatigue or weakness, irritability or anger, loss of appetite, diarrhea or frequent urination, lack of energy or depression and trembling or sweating in the hands.

Symptom	Rarely or never	Sometimes to frequently
Acidity or burning in the stomach	49.1	50.9
Loss of appetite	65.5	34.5
Desire to vomit or vomit	83.6	16.4
Abdominal pain	74.5	25.5
Diarrhea or frequent urination	65.5	34.5
Difficulty falling asleep or waking up during the night	54.5	45.5
Nightmares	74.5	25.5
Headaches	52.7	47.3
Decreased sexual desire	74.5	25.5
Dizziness	78.2	21.8
Palpitations or irregular heartbeats	72.7	27.3
Tremor or sweating in the hands	69.1	30.9
Excessive sweating if you have done physical exertion	72.2	27.8
Shortness of breath without having made physical effort	87.3	12.7
Lack of energy or depression	65.5	34.5
Fatigue or weakness	60.0	40.0
Nervousness or anxiety	56.4	43.6
Irritability or anger	60.0	38.3

Figure 1. Percentages of stress symptoms according to the symptomatic scale of stress of seppo ARO
Source: self made.

The presence of psychosocial factors was shown by 49.1% of the operative workers. According to the instrument of psychosocial factors of Silva (2006) (figure 2), the highest prevalence was for the area of "workload" which assesses whether the worker has an excess of activities to carry out during his daily work, if the labor demands you receive do not correspond to your level of knowledge, if the days are longer than 9 hours of work, if they work on weekends and during vacations in your company's activities and if they have few tasks to perform during your daily work day .

This information is supported by the "content and characteristics of the task" area, referring to whether their work is repetitive, routine or boring, if they face problems with their peers, that work does not allow them to develop new skills and knowledge, if they participate in projects that are not of your interest, if they make constant changes in activities or if you carry out activities that are not your specialty, as well as if they exercise coordination and supervision of personnel.

With the same importance of prevalence appears

the area of "work demands" with variables as if their work is characterized as a complex task, requires a high degree of concentration, to remain for many hours in uncomfortable positions (standing or sitting), makes use of constant verbalization, requires prolonged visual effort, requires creativity and initiative, has demands to enter stimulus programs or productivity bonuses.

The "conditions of the workplace" and "work role and career development" are two areas that are also affected, it should be noted that they are evaluated from the presence of: noise, lighting, temperature, hygiene, dust, gases , solvents or vapors, microbes, fungi, insects or rodents, overcrowding, necessary equipment, activities not in accordance, difficulty in the use of new computer programs, incompatibility between their professional training and the demands, status of their corresponding position, limitations in the opportunities for promotion, lack of support in terms of training and / or training.

The alarming results of both the stress scale and the psychosocial factors allowed us to continue analyzing this problem.

Areas of psychosocial factors	Low level	Medium high level
	%	%
Conditions of work place	47.3%	52.7
Workload	30.9%	69.1
Content and characteristics of the task	32.7%	67.3
Labor demands	32.7%	67.3
Job role and career development	47.3%	52.7
Social interaction and organizational aspects	78.2%	21.8
Performance compensation	72.7%	27.3

Figure 2. Prevalences of the psychosocial factors in the work according to the scale of silva (adapted, 2004)
Source: self made

In the relationship results, it is observed with some tranquility that there is only significant correspondence with some of the dimensions of the instrument such as: "workplace conditions" with the symptoms of stress and with the variable sex,

the dimension "workload" "With the symptoms of stress, the" work demands "with the seniority in the institution and having some discomfort or illness in the last six months, as well as the" work role "also with the fact of being sick and the" total or of the scale of psychosocial factors "with seniority (figure 3).

Areas of psychosocial factors	Stress symptoms	Sex	Antiquity in the institution	Be sick
	p<0.05			
Conditions of work place	.028	.043	---	---
Workload	.012	---	---	---
Labor demands	---	---	.041	.007
Job role and career development	---	---	---	.007

Figure 3. Significant variable singles between psychosocial factors, stress symptoms and sickness
Source: self made. Note: --- non-significant values

IV. DISCUSSION

As the literature has shown, the probable statistical relationships between psychosocial factors and stress symptoms are expected, this is mainly due to the high labor demands and inadequate working

conditions to which the worker has and should be exposed when performing your work activities

Just as Gómez et al (2000) report that the vulnerable population to suffer the consequences of exposure to psychosocial agents are female

executives, nurses, secretaries and workers. Benavides and cols (2002) refer to workers in the construction, automobile, electrical, electronics and multinational industries as a sensitive population, or as Ansoleaga y Toro (2010) sees it, in which he finds the vulnerable workers a mining company.

The large number of studies carried out by teachers and health professionals is striking, however, we agree with Moncada et al (2008) in which he states that any salaried population may be at risk and be sensitive to suffer its consequences.

However, the prevalence figures for the psychosocial risks reported are reflected in different ways according to the activity in question and the psychosocial risk that the worker perceives as negative for him. Comparing the percentage (50%) of the prevalence of psychosocial factors in the present study, we can observe that this is high compared to the 30% referred by the European Foundation (1996) with the presence of factors such as when the worker is exposed to work night, repetitive tasks, monotony, working under constant pressure, excessive workload and forced postures were the most frequent risks.

Similar data is expressed by the ILO (2001) where it can be seen that since the 1980s workers were orienting their work to be mentally very fatigued, to having no opportunity to rest or to learn new things, to the rhythms of work and the workloads were very high, because they had no possibility of promotion, because the relationship between their studies with the job was not adequate.

On the other hand, Mireles, Pando and Aranda (2003) using the scale of identification of psychosocial factors of Legaspi, Martínez and Morales (1986) scale similar to that of Silva, find that, the areas of the work system and social interaction were the most affected (46% and 43%).

More recent research reports that the psychosocial risks range from those who report being in third place of importance approaching up to 80% of its prevalence (Hernández, J.R, 2006) as those who appreciate 37% (Enriquez et.al., 2010) or those who report low capacity to make decisions and to deploy their skills at work 48%, high psychological demands 47%, under social support of peers and superiors 41% and 67% imbalance between the efforts they invest in work and the rewards they receive in return (Ansoleaga, E., 2015).

The little significant relationship seen in this work can be compared with the study by Gómez, Hernández and Méndez (2014), especially in regard to the dimensions of "workplace conditions" and "workload" since it is mentions, initially, that the active work dimension and development possibilities are in a high range of exposure, that the training they require to perform the occupation are not adequate, that there are high psychological demands and under task control, that they feel that their work is not a source of opportunities to develop their skills and knowledge, that they feel unhappy with the physical environment and space in the workplace, cleanliness, hygiene and sanitation, temperature, ventilation and lighting ; and that the results of association reveal that there is a significant and negative relationship between risk factors, job satisfaction and psychological demands.

The literature shows, in some cases, that there is significance between psychosocial factors and mental health indicators, explaining that "the more perception of work stress greater perception of depression, anxiety, social dysfunction and psychosomatic symptoms", but that this significant relationship it does not occur in all cases in terms of indicators of working conditions refers to health aspects (Gómez-Ortiz & Moreno, 2009), which can not be compared with the results of this study since here there was a significant relationship between being sick and dimensions of "work demands" and "work role and career development". But, significant correlations between dissatisfaction with the work role, work stress, negative relationships and little social support with colleagues and superiors, negative change in work pressure and workloads, with health measures, are demonstrated by Matud, García and Matud (2002).

As already stated, the presence of psychosocial factors perceived as inadequate by the worker and for him, constitute a risk of his own, and can even become serious problems for his health. The manifestation most known for exposure to psychosocial risks is stress or, rather, distress (Aranda et.al., 2005), that is, "the mechanism by which these risk factors are associated with the emergence of diseases" (Ansoleaga, Vezina, & Montano, 2014).

According to the Official Gazette of the Federation in its Draft Official Mexican Standard 035 of the

Ministry of Labor and Social Welfare Federal Labor Law (Norma Oficial Mexicana, 2016) the problem of psychosocial risk factors in the workplace is addressed (project oriented to the prevention) and indicates, among other things, that they are aspects to be considered within the psychosocial risk factors, those that derive from the nature of the functions of the job: the dangerous conditions inherent in it; when performed under unsafe conditions; which carries high responsibility, or requires intense concentration and attention for long periods. This project provides for the identification of psychosocial risk factors and the evaluation of the organizational environment. For this purpose, it has implemented two identification-oriented tools that allow us to define actions to prevent the effects and consequences of psychosocial risk factors, in order to determine the strategies to be followed. It is suggested, in addition to the researcher's own evaluations, to follow the indications that the rules govern.

V. CONCLUSION

In this study, a prevalence of stress symptoms was found in 36.4%. The presence of psychosocial factors was shown by 49.1% of the operative workers. According to the instrument of psychosocial factors of Silva, the highest prevalence was for the area of "workload" is seconded the area of "content and characteristics of the task" referring to whether his work is repetitive, routine or boring, that if he faces problems with his peers, that work does not allow him to develop new skills and knowledge. The "conditions of the workplace" and "work role and career development" are two areas that are also affected

In the relationship results, it is observed that there is only significant correspondence with some of the dimensions of the instrument such as: "workplace conditions" with the symptoms of stress and with the sex variable, the "workload" dimension with the symptoms of stress, "work demands" with seniority in the institution and having some discomfort or illness in the last six months, as well as the "work role" also with the fact of being sick and the "total or global scale of psychosocial factors" with seniority.

VI. REFERENCES

Ansoleaga, E. (2015). Indicadores de salud mental

asociados a riesgo psicosocial laboral en un hospital público. *Revista médica de Chile*, 43(1), 47-55.

Ansoleaga, M.E., Toro, J.P. (2010). Factores psicosociales laborales asociados a riesgo de sintomatología depresiva en trabajadores de una empresa minera. *Salud trabajo*, 18(1): 07-16.

Ansoleaga, E., Vezina, M., & Montano, R. (2014). Síntomas depresivos y distrés laboral en trabajadores chilenos: condiciones diferenciales para hombres y mujeres. *Cad. Saúde Pública*, 30(1), 107-118.

Aranda B.C., Pando M.M., Torres, L.T., Salazar E.J. & Franco Ch. S. (2005). Factores psicosociales y síndrome de burnout en médicos de familia. *México. Anales de la Facultad de Medicina*, 66(3):225-231.

Benavides F. et ál. (2002) Descripción de los factores de riesgo psicosocial en cuatro empresas. *Gac Sanit*, 16(3). pp. 222-229

Castañeda, H., Colunga, C., Preciado, M., Aldrete, M. & Aranda, C. (2011). Estrés organizacional y factores psicosociales laborales asociados a salud mental en trabajadores de atención primaria. *Wasapa*, 2(5). 80-88

Colunga, C., Enríquez, C., González, M., & Domínguez, R. (agosto, 2008). Factores psicosociales en el trabajo asociados a síntomas de estrés en enfermeras de atención terciaria. *Memorias del 2do Foro de las Américas en Investigación sobre Factores Psicosociales: Estrés y Salud Mental en el Trabajo*, 1-9.

Comisión Europea (2002). *Guía sobre el estrés relacionado con el trabajo. ¿La sal de la vida o el beso de la muerte?* Dirección general de empleo y asuntos sociales: Bruselas

Día Mundial de la Seguridad y Salud en el Trabajo 2016, declaración 28 de abril de 2016 'Estrés en el Trabajo: Acabemos con esta carga'. Organización Internacional del Trabajo. Disponible en: http://www.ilo.org/global/about-the-ilo/how-the-ilo-works/ilo-director-general/statements-and-speeches/WCMS_475728/lang--es/index.htm.

Ultimo acceso 14-09-2017

- Enríquez, C.B., Colunga, C., Preciado, M.L., Ángel, M., Domínguez, R. (2010). Factores psicosociales y estrés en el trabajo hospitalario de enfermería en Guadalajara, México. *Revista Colombiana de Salud Ocupacional*, 1(1): 22-25.
- Gómez Rojas, Paola, Hernández Guerrero, Julia, & Méndez Campos, María Doris. (2014). Factores de Riesgo Psicosocial y Satisfacción Laboral en una Empresa Chilena del Área de la Minería. *Ciencia & trabajo*, 16(49), 9-16. <https://dx.doi.org/10.4067/S0718-24492014000100003>
- Gómez-Ortiz, Viviola, & Moreno, Lorena. (2009). Factores psicosociales del trabajo (demanda-control y desbalance esfuerzo-recompensa), salud mental y tensión arterial: un estudio con maestros escolares en Bogotá, Colombia. *Universitas Psychologica*, 9(2), 393-407. Recuperado el 21 de septiembre de 2017, de http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1657-92672009000200008&lng=pt&tlng=es
- Hernández, J.R. (2006). El desencuentro entre la salud mental y la salud de los trabajadores. *Rev. Cubana Salud Pública*, 32(4): Recuperado en 18 de septiembre de 2017, de http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-34662006000400017&lng=es&tlng=es.
- Legaspi, V., Martínez, M., & Morales, N. (1986). Factores psicosociales en el ambiente de trabajo. México: Subdirección General Médica. Instituto Mexicano del Seguro Social.
- Leka, Stavroula. (2004). La organización del trabajo y el estrés: estrategias sistemáticas de solución de problemas para empleadores, personal directivo y representantes sindicales. OMS. Serie protección de la salud de los trabajadores.
- Matud Aznar, M P; García Rodríguez, M d A; Matud Aznar, M J; (2002). Estrés laboral y salud en el profesorado: un análisis diferencial en función del género y del tipo de enseñanza. *International Journal of Clinical and Health Psychology*, 451-465.
- Recuperado de <http://www.redalyc.org/articulo.oa?id=33720305>
- Mireles, P.A.B., Pando, M.M., Aranda, B.C. (2003). Factores psicosociales y síndrome de burnout en una empresa de la rama textil en Guadalajara, México. *Investigación en Salud*, 4(2):104-110
- Moncada, L.S., Llorens, S.C., Font, C.A., Galtés, C.A., Navarro, G.A. (2008). Exposición a riesgos psicosociales entre la población asalariada en España (2004-5): valores de referencia de las 21 dimensiones del cuestionario COPSOQ ISTAS21. *Rev. Esp. Salud Pública*, 82: 667-675.
- Oramas, A. (2013). Estrés laboral y síndrome de burnout en docentes cubanos de enseñanza primaria. Ministerio de Nacional de Salud Pública.
- Organización Internacional del Trabajo (OIT). (1986). *Psychosocial Factors at Work: Recognition and Control*. Occupational Safety and Health Series. OIT: Geneva.
- Organización Internacional del Trabajo / Organización Mundial de la Salud (OIT/OMS). (1984). Factores psicosociales en el trabajo: Naturaleza, incidencia y prevención. Informe del Comité mixto OIT/OMS sobre medicina del trabajo. Ginebra, Suiza, 122 págs.
- Organización Internacional del Trabajo / Organización Mundial de la Salud (OIT/OMS). (2001). Factores psicosociales en el trabajo: naturaleza, incidencia y prevención. Informe del comité mixto OIT/OMS sobre medicina del trabajo. Ginebra: OIT.
- Peiró, J.M., Rodríguez, I. Estrés laboral, liderazgo y salud organizacional. *Papeles del Psicólogo* [en línea] 2008, 29 (enero-abril): [Fecha de consulta: 14 de septiembre de 2017] Disponible en: <<http://artificialwww.redalyc.org/articulo.oa?id=77829109>> ISSN 0214-7823
- Proyecto de Norma Oficial Mexicana PROY-NOM-035-STPS-2016, Factores de riesgo psicosocial-Identificación y prevención. DOF: 26/10/2016. http://www.dof.gob.mx/nota_detalle.php?codigo=5458430&fecha=26/10/2016

- Roman, J. (2003). Estrés y Burnout en profesionales de la salud de los niveles primario y secundario de atención . Revista Cubana de Salud Pública , 105.
- Seppo Aro. (1980). Escala de estrés laboral. Superintendencia de Riesgos del Trabajo (SRT). Recuperado de <http://www.srt.gob.ar/index.php/seppo-aro> el 01 de junio de 2015.
- Silva Gutiérrez, N. (2006). Factores Psicosociales, Estrés Y Desgaste Profesional en académicos del CUCBA, Universidad de Guadalajara, Tesis doctoral.
- Viviola Gómez, Luz Amparo Pérez, Lya Feldman, Nury Bajés y Eleonora Vivas. Riesgos de salud en mujeres con múltiples roles. Revista de estudios sociales, 2000; 6: 27-38.
- II Encuesta Europea sobre condiciones de trabajo de la Fundación Europea para la Mejora de las Condiciones de Vida y de Trabajo. Dublín: Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT); 1996.