

Rojas Botero, Maylen Liseth; Grisales Romero, Hugo

Burnout syndrome in professors from an academic unit of a Colombian university
Investigación y Educación en Enfermería, vol. 29, núm. 3, octubre-diciembre, 2011, pp.
427-434

Universidad de Antioquia
Medellín, Colombia

Available in: <http://www.redalyc.org/src/inicio/ArtPdfRed.jsp?iCve=105222406011>

Revista
**INVESTIGACIÓN Y EDUCACIÓN EN
ENFERMERÍA**

Investigación y Educación en Enfermería

ISSN (Printed Version): 0120-5307

revista@tone.udea.edu.co

Universidad de Antioquia

Colombia

How to cite

Complete issue

More information about this article

Journal's homepage

Burnout syndrome in professors from an academic unit of a Colombian university

Maylen Liseth Rojas Botero¹
Hugo Grisales Romero²

Abstract

Objective. To determine the prevalence of burnout syndrome, and the relationship with the type of contract under which professors work for the university, in professors of an academic unit of a public university of the city of Medellín (Colombia) in 2008. **Methodology.** A cross sectional descriptive study was carried out in three independent, randomized, representative samples according to the type of contract (31 full timers, 21 part timers and 43 per hours). A total of 89 professors were interviewed. To measure burnout prevalence the Maslach Burnout Inventory was used. **Results.** The prevalence of burnout probable cases was 19.1%, an additional 49.4% was at risk of having suffered it. According to the type of contract, full time professors had the highest prevalence (25.0%). In general, professors reported high levels of emotional tiredness and depersonalization (32.6% and 30.6% respectively), and a low level of personal accomplishment (38.2%). **Conclusion.** Burnout syndrome presented different type of behaviors according to the type of contract, being full time professors the ones who had the highest prevalence of the syndrome; it was expressed with higher degrees of emotional tiredness and a lower personal accomplishment.

Key words: burnout, professional; faculty; occupational health.

Síndrome de burnout en profesores de una unidad académica de una universidad de Colombia

Resumen

Objetivo. Determinar la prevalencia del síndrome de burnout y su relación con el tipo de vinculación laboral, en los profesores de una unidad académica de una universidad pública de la ciudad de Medellín (Colombia), en 2008. **Metodología.** Estudio descriptivo de corte transversal, en tres muestras independientes, aleatorias y representativas según tipo de vinculación laboral (31 de planta, 21 ocasionales y 43 por horas). En total, se encuestaron 89 profesores. Para medir la prevalencia del burnout se utilizó el Maslach Burnout Inventory. **Resultados.** La prevalencia de los casos probables de burnout fue del 19.1%; otro 49.4% adicional estaba

1 Gerente de Sistemas de Información en Salud, candidata a magíster en Epidemiología. Responsable de Sistemas de Información del proceso de Atención Primaria en Salud "En Familia" de la Facultad de Comunicaciones de la Universidad de Antioquia, Colombia.
email: maylenliseth@gmail.com

2 Matemático, Doctor en Epidemiología. Profesor titular de la Facultad Nacional de Salud Pública de la Universidad de Antioquia, Colombia.
email: hgrisales@guajiros.udea.edu.co

Subvenciones y ayudas: artículo producto de investigación adscrita al grupo de investigación Demografía y Salud, financiada por el Fondo de Apoyo Docente de la Facultad Nacional de Salud Pública de la Universidad de Antioquia.

Conflicto de intereses: ninguno a declarar.

Fecha de recibido: 23 de junio de 2010.

Fecha de aprobado: 16 de mayo de 2011.

Cómo citar este artículo: Rojas ML, Grisales H. Burnout syndrome in professors from an academic unit of a Colombian university. Invest Educ Enferm. 2011;29(3): 427-434.

en posible riesgo de sufrirlo. Según el tipo de vinculación, los profesores con mayor exposición al ambiente laboral presentaron la prevalencia más alta (25.0%). En general, los profesores reportaron altos niveles de cansancio emocional y despersonalización (32.6% y 30.6%) y bajo nivel de realización personal (38.2%). **Conclusión.** El síndrome de burnout presentó un comportamiento diferente según tipo de vinculación. Los profesores con mayor exposición al ambiente laboral obtuvieron mayor prevalencia del síndrome, el cual se manifestó con un mayor cansancio emocional y una menor realización personal.

Palabras clave: agotamiento profesional; docentes; salud laboral.

Síndrome de burnout em professores de uma unidade acadêmica de uma universidade de Colômbia

■ **Resumo** ■

Objetivo. Determinar a prevalência da síndrome de burnout e sua relação com o tipo de vinculação trabalhista, nos professores de uma unidade acadêmica de uma universidade pública da cidade de Medellín (Colômbia), em 2008. **Metodologia.** Estudo descritivo de corte transversal, em três mostras independentes, aleatórias e representativas segundo os tipos de vinculação trabalhista (31 de planta, 21 ocasionais e 43 por horas), ao todo foram interrogados 89 professores. Para medir a prevalência do burnout se utilizou o Maslach Burnout Inventory. **Resultados.** A prevalência dos casos prováveis de burnout foi de 19.1%, outro 49.4% adicional estava em possível risco de tê-lo sofrê-lo. Segundo o tipo de vinculação, os professores com maior exposição ao ambiente trabalhista apresentaram a prevalência mais alta (25.0%). Em geral, os professores reportaram altos níveis de cansaço emocional e despersonalização (32.6% e 30.6%) e sob nível de realização pessoal (38.2%). **Conclusão.** A síndrome de burnout apresentou um comportamento diferente segundo tipo de vinculação, sendo os professores com maior exposição ao ambiente trabalhista quem obtiveram maior prevalência da síndrome, que se manifestou com um maior cansaço emocional e uma menor realização pessoal.

Palavras chave: esgotamento profissional; docentes; saúde do trabalhador.

Introduction

The burnout term appeared in the scientific literature in the decade of 1970, when it was used for the first time by the psychoanalyst Freudenberg,¹ who worked as a voluntary psychiatrist in the New York Free Clinic for drug addicts in 1974; he observed that after a year of working in the clinic, most of them underwent a gradual loss of energy, exhaustion, lack of job motivation and some anxiety and depression symptoms. He suggested burnout as a status characterized by a group of medical-biological and psychosocial unspecific symptoms, exhaustion, deception, and loss of interest, as a consequence of daily work, developed by professionals dedicated to service and help, who didn't reach the expectations deposited in their job. He defined burnout syndrome as a

“feeling of failure and exhausted or tired existence resulting from energy demands overload, personal sources or employee's spiritual strength”.² Despite the psychoanalyst contribution, the term has been delimited and accepted by the scientific community, almost all, from Maslach's and Jackson's conceptualization,³ who defined the syndrome as an answer to chronic stress consisting of three main factors: Emotional exhaustion, depersonalization and low personal accomplishment.

Burnout was considered, at first, as an exclusive syndrome of social service professions, in which people work with direct contact with the customer, however, Maslach and others, expressed it could be developed in individuals whose job do

not imply such contact, to the point of considering it can happen in any profession, but it is a specially important problem in jobs that require giving emotional help, among which are nursing, teaching, social work and children care.⁴⁻⁶

The necessity to explain the burnout episode, as well as the usefulness of integrating it in wider theoretical frames, to allow a satisfactory explanation of its etiology, has given place to the creation of diverse theoretical models that group a series of variables, considered as precedents and consequents of the syndrome. The models created from psychosocial considerations can be classified according to Gil Monte and Peiró⁷ in three groups to know:

1) Models developed from the social cognitive theory, in which individuals cognitions influence in what they perceive and do; 2) Models developed from social exchange theories, which propose that the syndrome is originated from perceptions of lack of equity, where the employee expectations play an important role; and 3) Models created from the organizational theory which include role dysfunctions, lack of organizational health, structure, culture and organizational climate as the syndrome precedents. They are models characterized by emphasizing the importance of the organization's context stressors and the coping strategies used towards the "burning" experience.⁷

Burnout syndrome can decrease the quality of the education given by professors, what goes against the academic excellence, ethical and social responsibility criteria every university set in their institutional mission.⁸ It is how it was determined to look for the burnout syndrome prevalence, and its relationship with the type of contract in professors of an academic unit in a University of the city of Medellin, aiming to provide information for designing strategies directed to improve the professional's wellbeing.

Methodology

Cross-sectional study carried out using information collected from a self-administered survey to pro-

fessors, with the supervision of researchers, from an academic unit of a public university of Medellin (Colombia), in the second semester of 2008.

Cox, Kuk and Lieter's⁹ burnout definition was used in our research; answer to work stress developed when the employee's strategies for coping with stress are not effective to manage it. Maslach, Schaufeli and Leiter's Maslach Burnout Inventory (MBI),¹⁰ validated for Colombia in 2004,¹¹ was the instrument used. This questionnaire has 22 items that evaluate burnout through three factors: emotional fatigue, depersonalization, and low personal accomplishment (with 9, 5 and 8 questions, respectively). Each item has seven answer categories which go from 0 (never) to 6 (Every day).

Burnout degrees were established according to the MBI's manual,¹² in which a triple classification of the variability of the results in the instrument was used. Establishing three possible values: high, medium and low, according to their location in the upper third, medium or bottom third of the possible values. With this purpose, the values segment is divided in three areas: upper, medium, bottom, taking as cut points percentiles 33 and 66.

Manassero's *et al.*¹³ and Guerrero¹⁴ procedure was replicated to value burnout levels, establishing five different levels from the possible combinations in percentiles 33 and 66, already calculated, and used as cut point. Burnout levels were classified as: none, little, medium, much, and extreme. For prevalence calculus, burnout levels were classified as: a) without burnout: for the "none" level; b) at burnout risk: "little", "medium", "much" levels; and c) With "extreme" burnout level. For the variable professor's type of contract, three categories were established: a) Permanent professor: Academic hired by public contest of merits, and is hired indefinitely; b) Occasional: Hired by merit selection, he is hired for less than a year; c) Adjuncts: Work for a determined number of hours by academic period.

The studied population consisted of 139 professors, 47 associated professors, 24 occasional and 68 adjuncts, according to the academic department's official registries. The overall sample size was calculated using the usual expression,

when the study aims to estimate a proportion according to the burnout syndrome prevalence reported by Yepez and Soraca.¹⁵ Out of 14.3%, a maximum error of 5% and 95% reliability, for a total sample of 95 professors, who were proportionately assigned according to the type of contract: 31 permanent professors, 21 occasional, and 23 adjuncts. Professor who did not have subjects assigned, were in a sabbatical year, in work commission or exclusively dedicated to research projects were not included.

The instrument was applied once it was accepted by the bioethical committee of the academic unit, and each professor accepted participating signing informed consent. Information was systematized using Access 2007, SPSS 15 (SPSS®, Chicago). Tabular, pictorial and textual presentation was made through the Word's text processor in Windows Vista. Additionally, steps established in Rubio's research¹, where three possible ways of interpreting the syndrome are studied for each MBI dimension, through averages, degrees and levels were followed.

Results

MBI dimensions score description according to professor's type of contract. Table 1 shows MBI dimensions mean scores according to professor's type of contract. It can be appreciated that in the *emotional fatigue* dimension, the range went from 0 to 43 points out of 54 possible points, with a total average of 12.6 ± 10.4 points. By type of contract, a statistically significant difference was found between the average scores of this dimension, being higher among permanent professors ($p=0.023$, Kruskal Wallis H test). Regarding *depersonalization* dimension, the range varied between 0 and 7 out of 30 possible points, for a total average of 1.4 ± 2.0 points. For this dimension, temporary professors were the ones who got a higher score, statistically significant difference ($p=0.014$ Kruskal Wallis test). Different from the *personal realization* dimension where the general sample got an average score of 42.4 ± 4.5 out of 48 possible points, without statistically significant

differences in the average scores ($p=0.348$, one-way parametric ANOVA).

Burnout degrees. For this research, cut points were calculated for the general sample and for each type of contract; they can be seen in Table 2.

This classification is shown in Table 3. It is highlighted that professors reported low levels of emotional fatigue, depersonalization and personal accomplishment, taking into account that the first two correspond to negative indicators, and the last one to a positive indicator. According to type of contract, permanent professors got the lowest personal accomplishment (42.9%) and the highest emotional fatigue (32.1%), while temporary professors showed higher scores for depersonalization (33.3%).

Burnout levels. It was observed that 45% of the professors were located among the "none" and "little" levels (31.5% and 13.5% respectively), 13.5% were in the "medium" level, 22.5% were in the "much" one, and the remaining 19.1% in the "extreme" level.

Burnout prevalence. In Table 4 it can be appreciated that the total prevalence of probable burnout cases for this research was 19.1% ($CI_{95\%}=10.4\%-27.8\%$), however it should be highlighted that the additionally 49.4% was at risk of having it ($CI_{95\%}=38.5\%-60.4\%$). Permanent professors were the ones with higher burnout prevalence (25.0%), followed by temporary professors (19.0%) and adjuncts (17.5%).

Discussion

This study shows burnout syndrome experienced by professors of an academic unit of a public university of the city of Medellin. In general, professors reported low levels of emotional fatigue, depersonalization and personal accomplishment, taking into account the first two correspond to positive indicators, while the last one is a negative indicator. Permanent professors were the ones who got a higher rate of emotional fatigue, while

Table 1. MBI dimensions mean scores according to type of contract and total

Dimension	Contract			Total
	Permanent	Temporary	Adjuncts	
Emotional fatigue	17.1±13.0	12.2±7.0	9.6±8.9	12.6±10.4
Depersonalization	0.9±1.7	2.5±2.4	1.2±1.8	1.4±2.0
Personal accomplishment	42.5±4.4	41.4±4.8	42.8±4.4	42.4±4.5

Table 2. Cut points* for three MBI equal groups according to dimension and type of contract

Dimension	Contract						Total	
	Permanent		Temporary		Adjuncts		P ₃₃	P ₆₆
	P ₃₃	P ₆₆	P ₃₃	P ₆₆	P ₃₃	P ₆₆		
Emotional tiredness	7.0	20.1	7.0	16.5	4.0	11	7.0	15.0
Depersonalization	0.0	0.14	1.0	4.0	0.0	1.0	0.0	1.0
Personal realization	40.6	44.3	40.3	43.5	41	44.1	41.0	44.0

* established for percentiles 33 and 66

Table 3. Burnout degree by MBI according to dimension and type of contract

Dimension	Degree	Contract						Total	
		Permanent		Occasional		Adjuncts		n=89	%
n=28	%	n=21	%	n=40	%				
Emotional fatigue Depersonalization	Low	10	35.7	8	38.1	15	37.5	37	41.6
	Medium	9	32.1	9	42.9	14	35.0	23	25.8
	High	9	32.1	4	19.0	11	27.5	29	32.6
Emotional fatigue Depersonalization	Low	19	67.9	11	52.4	20	50.0	45	50.6
	Medium	0	0.0	3	14.3	9	22.5	17	19.1
	High	9	32.1	7	33.3	11	27.5	27	30.3
Emotional fatigue	Low	12	42.9	7	33.3	14	35.0	34	38.2
	Medium	7	25.0	9	42.9	13	32.5	28	31.5
	High	9	32.1	5	23.8	13	32.5	27	30.3

Table 4. Burnout prevalence by degree and type of contract

Degree	n=28	Contract						n=40	n=89
		Permanent		Temporary		Adjuncts			
Prev*	CI _{95%}	Prev*	CI _{95%}	Prev*	CI _{95%}	Prev*	CI _{95%}	Prev*	CI _{95%}
Without burnout	12	42.9	22.7 - 63.0	7	33.3	14.6 - 57.0	13	32.5	16.7 - 48.3
At risk	9	32.1	13.1 - 51.2	10	47.6	24.0 - 71.4	20	50.0	33.3 - 66.7
With burnout	7	25.0	7.2 - 42.8	4	19.0	5.4 - 41.9	7	17.5	4.5 - 30.5

*Prev= burnout prevalence per 100 constant

occasional professors got higher depersonalization scores. Some studies have found higher prevalence of depersonalization and lower personal accomplishment levels in professors, in high school teachers the opposite has been found. However, these results should be carefully analyzed because they do not discriminate by teacher's type of contract.¹⁶⁻¹⁸

Burnout syndrome prevalence for this research was 19.1%, being higher for permanent professors than occasional and adjuncts, what could be explained by the chosen model to achieve the goals of this research, framed from organizational theory that emphasizes in the importance of organizational context stressors, and wearing out coping strategies, as an answer to job stress. From this point of view, and knowing permanent professors indefinite term contractual relationship with the university, It is possible that the presence of the syndrome could be explained because wearing out coping strategies used by the professor, are not effective to manage the syndrome and its effects, or because there could be any kind of deterioration of the organizational environment, due to fissures in the relationship between professors and, leaderships that do not bring the team together, or administrative situations. Reason why, the ones who spend more time in the faculty, permanent professors, would be the ones with higher risk of having the syndrome.

It is necessary to mention that burnout prevalence rates could have change according to professor's type of contract, if instead of using Cox Kuk y Leiter,⁹ organizational model, a model that emphasizes in professor's work load framed from the social exchange theory was used. In everyday life it is perceived that adjunct professor's are the ones who should more easily develop burnout syndrome, due to simultaneous jobs in different institutions and job instability; such picture would justify a study where work load domains would be taken as models.

The organizational model was chosen for this research, knowing the difficulty of having a reliable measure for the variables related with work load, especially with adjunct professors, because tendency reflects that this professors assume school responsibilities in other institutions and

so, even though they have the syndrome, it could be detected that it could be caused by cumulative wearing out, but not by a specific institution. It is highlighted the importance of knowing the characteristics of this population, because 49.3% of the faculty professors where the study was carried out are adjuncts. 49.4% of the professors were at risk of developing burnout, being higher in adjunct professors and similar among permanent and temporary professors. In a study carried out in San Andres de Sotavento (2006), a 14.3% prevalence was found;¹⁵ and in Medellin (2005) a 23.4% prevalence was found with an additional 23.4% at risk of developing it. Other studies showed 12.5%,¹⁹ 23%,²⁰ 25.9%,²¹ 40%²² and 43%²³ prevalence. According to Restrepo and Colorado,¹¹ the differences among the syndrome magnitudes could be hypothetically due to the model, and burnout case definition used by each of the authors, despite which prevalence found are of great importance.

The necessity of implementing an epidemiological surveillance system that include, both MBI variables as well as psychosocial risk factors distinguished by type of contract, to promote the implementation of promotion, prevention and intervention activities in the system, directed to lower burnout risk magnitude and improving work environment, urges. This surveillance system requires structuring a training program with qualified personnel. To let the professors know what the syndrome is, what triggers it, manifestations and coping strategies, which allow care and self-evaluation.

It is important to continue estimating burnout syndrome risk magnitude, and establish its association with other psychological variables from a clinical perspective, to establish comorbidity associated to the syndrome, such as depression, modal event in professors.

Due to burnout risk and prevalence magnitude according to professor's type of contract, it would be important to make similar studies in other faculties of the university in which the study was performed, including, as mentioned before, variables that take into account professor's work load, which would allow a better approach to the problem. Finally, it is pointed out that the main

limitation of this study is the lack of consensus to define a burnout case, what make comparisons among different researches differ, even though to date, it is still the most recommended instrument to measure such syndrome.²³⁻²⁸

Acknowledgments: the authors wish to thank Centro de investigaciones de la Facultad Nacional de Salud Pública and Mg. Nadia Catalina Restrepo.

Referencias

- Guerrero E, Rubio JC. Estrategias de prevención e intervención del "Burnout" en el ámbito educativo. *Salud Ment.* 2005;28(5):27-33.
- Freudenberger M. Staff Burn-out. *J Soc Issues.* 1972;30(1):159-65.
- Moriana J, Herruzo J. Estrés y Burnout en profesores. *Int J Clin Health Psychol.* 2004;4(3):597-621.
- Hermosa A. Satisfacción laboral y síndrome de Burnout en profesores de educación primaria y secundaria. *Rev Col Psicol.* 2006;(15):81-9.
- Coon D. Fundamentos de psicología. 10ª ed. México: Thomson; 2005.
- Aranda C, Pando M, Torres T, Salazar G, Aldrete M. Síndrome de Burnout y manifestaciones clínicas en los médicos familiares que laboran en una institución de salud para los trabajadores del Estado. *Psicol Salud.* 2006;16(1):15-21.
- Gil Monte P, Peiró J. Perspectivas teóricas y modelos interpretativos para el estudio del síndrome de quemarse por el trabajo. *An psicol.* 1999;15(2):261-8.
- Universidad de Antioquia. Plan de desarrollo. Capítulo segundo [Internet]. Medellín: Universidad de Antioquia; 2007 [acceso 2008 ago 26]. Disponible en: http://www.udea.edu.co/plan/cap_2/mision_udea.html
- Cox T, Kuk G, Leiter MP. Burnout, health, work stress and organizational healthiness. En: Schaufeli WB, Maslach C, Marek T, Editors. *Professional burnout: recent developments in theory and research.* UK: Taylor & Francis; 1993. p. 261-9.
- Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Clin Psychol.* 2001;52:397-422.
- Restrepo N, Colorado G. Desgaste profesional (Burnout) y su asociación con factores de riesgo psicosocial en docentes oficiales de Medellín, Colombia, 2005 [CD-ROM]. Medellín: Facultad Nacional de Salud Pública, Universidad de Antioquia; 2005.
- Maslach C, Jackson SE. *Maslach Burnout Inventory.* 2ª ed. Palo Alto CA: Consulting Psychologist Press; 1981.
- Manassero M, Vázquez A, Ferrer M, Fornés J, Fernández MY, Queimaledos J. Burnout en profesores: impacto sobre la calidad de la educación, la salud y consecuencias para el desarrollo profesional. Madrid: MEC-CIDE; 1994.
- Guerrero E, Rubio J. Fuentes de estrés y síndrome de «Burnout» en orientadores de institutos de enseñanza secundaria. *Rev Educ.* 2008;347:229-54.
- Yépez M, Soracá A. Síndrome de Burnout asociado con factores de riesgos psicosociales en docentes oficiales del municipio de San Andrés de Sotavento (Córdoba), 2006 [Tesis de la Especialización en Salud Ocupacional]. Medellín: Facultad Nacional de Salud Pública, Universidad de Antioquia; 2006.
- Rubio J. Fuentes de estrés, síndrome de Burnout y actitudes disfuncionales en orientadores de Instituto de Enseñanza Secundaria [Tesis doctoral]. Badajoz: Universidad de Extremadura; 2003.
- Daniel E. Estudio del síndrome del desgaste profesional entre los médicos de un hospital general [Tesis doctoral]. Salamanca: Universidad de Salamanca; 1995.
- Rocañín, J, Martínez O, Cantizano J, Rico R, Martínez A, Iglesias M. Aproximación al estrés profesional (Burnout) en funcionarios públicos de sanidad, guardia civil, justicia y ejército. *An psiquiatr.* 1996;12:15-22.
- Martínez A. El malestar docente explicado a través del modelo reformado de desamparo aprendido [Tesis doctoral]. Palma: Universitat illes Balears; 1991.
- Paredes M. Caracterización multivariante del síndrome de burnout en la plantilla de docentes de la Universidad de Salamanca. [Doctor en psicología] Salamanca: Ediciones Universidad de Salamanca, 2002.
- Guerrero E. Análisis pormenorizado de los grados de Burnout y técnicas de afrontamiento del estrés

- docente en profesorado universitario. *A Psicol.* 2003;19(1):145-58.
22. Aldrete M, Pando M, Aranda C, Balcázar N. Síndrome de burnout en maestros educación primaria de Guadalajara. *Invest salud* [Internet]. 2003 [acceso 2009 feb 07]; 5(1). Disponible en: <http://redalyc.uaemex.mx/redalyc/pdf/142/14200103.pdf>
 23. Cordeiro J, Guellén C, Gala F. Educación primaria y síndrome de burnout: situación de riesgo en los y las docentes de la zona de Bahía de Cádiz [internet]. Cádiz: Universidad de Cádiz; 2009 [acceso 2011 Feb 04]. Disponible en: http://www.stes.es/salud/Libro_Riesgos_laborales/c05a1.pdf
 24. Fernández M. Desgaste psíquico (Burnout) en profesores de educación primaria de Lima Metropolitana [Internet]. Lima: Universidad de Lima; [acceso 2009 feb 04]. Disponible en: http://dialnet.unirioja.es/servlet/fichero_articulo?codigo=2881042&orden=0
 25. Gomero R, Palomino J, Ruiz F, Llap C. El síndrome de burnout en el personal sanitario de los hospitales de la empresa minera de Southern Perú Copper Corporation: estudio piloto. *Rev Med Hered.* 2005;16(4):233-8.
 26. Llana J. Ergonomía y psicología aplicada. Manual para la formación del especialista. 13ª ed. Madrid: Lex Nova; 2009.
 27. Grajales T. Estudio de validación factorial del Maslach Burnout Inventory versión española en una población de profesionales mexicanos [Internet]. México: Universidad de Morelos; 2002 [acceso 2009 ago 04]. Disponible en: <http://www.tgrajales.net/mbvaliddez.pdf>
 28. Brenninkmeijer V, Van Yperen N. How to conduct research on burnout: advantages and disadvantages of a unidimensional approach in burnout research. *Occup Environ Med.* 2003;60(Suppl 1):S16-S20.