




RELATIONSHIP BETWEEN THE BURNOUT SYNDROME AND HYPERTENSION IN FIREFIGHTERS FROM MEXICO CITY, D.F.

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WHAT IS BURNOUT?


Because the null coping or maladjustment of workers to the demands of their psychosocial factors at work, there is Syndrome Burnout by the work how the response individual physiopatologic to the chronic job stress.

It has three dimensions:

- Reduced personal accomplishment at work
- High emotional distress or mental
- Depersonalization (misconduct);
- Feelings of guilt.


1 Type: 3 first dimensions.

2 Type: 3 dimensions, plus guilt.



RELATIONSHIP STRESS-SQT-EFFECTS

According to Gil-Monte (2005) burnout is integrated into the relationship between psychosocial risk factors and chronic job stress, under the following scheme:



INDIVIDUAL CONSEQUENCES:


Emotions	Attitudes	Psychosomatics
Feelings of loneliness Anxiety Feelings of helplessness Culpability Frustration	Isolation Cynicism or apathy Hostility or aggressiveness Irritability Auto negativity Alcohol and drugs	Chest pain or palpitations Hypertension Musculoskeletal pain Chronic fatigue or insomnia Change of weight Increase of cholesterol, glucose, or triglycerides, etc.

ORGANIZATIONAL SYMPTOMS:

Emotionals	Cognitive	Behaviorals	Social
Irritation. Apathy. Disappointment Pessimism. Hostility. Zero tolerance. Charges.	Loss of values. No expectations. Loss of self-esteem Loss of creativity. Distraction. Cynicism. Generalized criticism.	Avoidance of responsibility Absenteeism, resignation Impairment Self sabotage Disorganization. Avoidance decisions. Addictions.	Isolation and feelings of failure. Interpersonal conflicts. Avoidance training.

WHAT IS HTA?

Hypertension is a chronic disease of unknown etiology multifactorial, characterized by sustained increase in systolic pressure ≥ 140 mmHg and diastolic pressure ≥ 90 mmHg.




TYPE:	
The essential or multifactorial origin:	The secondary or associated with other causes:
Hereditary history of hypertension Overweight, obesity, Mental stress or smoking High intake of sodium and low potassium	Chronic renal failure Primary aldosteronism Thyroid disease or parathyroid Therapy c / steroids or Sx Cushing.

CLASIFICATION:	Stage 1: 140-159 / 90-99 mm de Hg
	Stage 2: 160-179 / 100-109 mm de Hg
	Stage 3: ≥ 180 / ≥ 110 mm de Hg

SQT – HYPERTENSION ASOCIATION

The possible pathways connecting the SQT with Hypertension are:

- Deregulation of the hypothalamic-pituitary-adrenal (HPA).
- Inflammation and immunity disorders.
- Blood clotting disorders (for alteration of fibrinogen).
- Sleep disturbances.



PURPOSE OF THIS STUDY

To determine the association between the presence of burnout and the development of hypertension, also the cardiovascular risk in Firefighters from Mexico City



METHODOLOGY

This is an analytical, cross-sectional correlation, which makes the measurement of psychosocial variables and biological on firefighters.

The study has total sample of 181 workers, fireman from 6 stations and clerical and general services personnel.



VARIABLES

TYPE	VARIABLES	OPERATIONALIZATION
Independent	SQT o Burnout	C E S Q T
Dependent	Hypertension	Diagnosis of hypertension with pressure tap at least 2 different days, using digital Blood Pressure.
Dependent	Cardiovascular Risk	Framingham Index
Confusión	BMI	Weight and height measurements, using tilts and measuring tape.
Confusión	Total Cholesterol and HDL	Take fasting blood sample.
Confusión	Diabetes and Smoking	C E S Q T
Confusión	Sex, Age, Age of Labor.	C E S Q T

METHODOLOGY

Instruments:

- CESQT (searching and pains associated demographics of burnout). 1st day application.
- Measurement of anthropometric variables or weight, height
- Measurement of blood pressure (three consecutive measurements) in two different days.
- Blood samples to measure blood lipids.



Statistical analysis:

- By SPSS 19, using Chi2

RESULTS

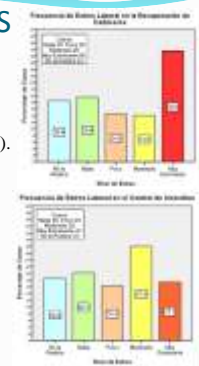
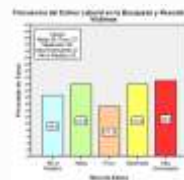
Sociodemographic Characteristics and Employment of firefighters:

CHARACTERISTICS	RESULTS
Sex	20.4% were female and 79.6% were men.
Age	66.1% are between 35 to 48 years
Job Title	79% were "firefighters" in active service, 8.8% were administrative or union, and 2.8% were secretaries.
Seniority	The 48.3% had 13 to 22 years

RESULTS

Stressful activities:

1. - The recovery of bodies (33.5%).
2. - The rescue of victims and control flammable and toxic spills (22.9%).
3. - The fire control (17.3%).



RESULTS

Prevalence of burnout and hypertension in firefighters:

A 2% had SQT (2 cases of burnout type 1 and 2 cases of burnout type 2). A 12% had latent risk for developing burnout.



The hypertension prevalence was 10% (with 18 positive cases). A 51% were at risk (92 pre-hypertensive).

RESULTS

Most common symptoms of hypertension in firefighters:

- 1) Phosphenes (35.8%).
- 2) Dizziness when changing positions or up (28.5%).
- 3) Tinnitus (25.7%).



Relationship between hypertension and tinnitus

Dates		No		Yes		Total	
DX	HTA	Nº	%	Nº	%	Nº	%
Hypertensive	Normotensive	53	76.8	16	23.2	69	100
	Prehypertensive	71	77.2	21	22.8	92	100
	Total	133	74.3	46	25.7	179	100
Total		No. of valid cases: 179		*Chi ² = 0.04			

RESULTS

Association between Burnout and Hypertension:

A significant relationship was found (p = 0.04) between the presence of burnout and high blood pressure in firefighters of D.F.

Relationship between burnout and hypertension

Dates		DX HTA						Total	
		Hyper tensive		Normo tensive		Prehyper - tensive			
Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
DX SQT	At risk	4	19	8	38.1	9	42.9	21	100
	Normal	12	7.7	61	39.1	83	53.2	156	100
	Type 1	1*	50	1	50	0	0.0	2	100
	Type 2	1*	50	1	50	0	0.0	2	100
	Total	18	9.9	71	39.2	92	50.8	181	100
N of cases: 181 *Fisher exact test = 0.04									

RESULTS

Association between burnout dimensions and hypertension:

Both the professional disappointment (p. = 0.02) as the psychological exhaustion (p. = 0.03) confirmed a link with hypertension.

With regard to sex, were found only in men professional disappointment (p. = 0.01) are relevant to hypertension.

Relationship between Professional Disenchantment and hypertension

		DX HTA						Total	
		Hyperten		Normotens.		Prehyperten			
Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Disenchant	High	5*	26.3	8	42.1	6	31.6	19	100
	Norm	13	8	63	38.9	86	53.1	162	100
Prof-SQT	al	18	9.9	71	39.2	92	50.8	181	100
N of valid cases: 181. *Chi ² of Pearson = 0.02									

Relationship between wear psychic and hypertension

		DX HTA						Total	
		Hypertens		Normotens		Prehyperten			
Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Wear	High	4*	20	11	56	5	25	20	100
Physic-	Norm	14	8.7	60	37.3	87	54	161	100
Prof-SQT	al	18	9.9	71	39.2	92	50.8	181	100
N of valid cases: 181 *Chi ² of Pearson = 0.03									

RESULTS

Relationship among Burnout and hypertension with other risk factors:

It was found that novice workers (2 to 12 years old) are susceptible to both burnout and Hypertension (Chi2 = 0.02).

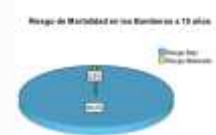
Another association was total cholesterol with burnout and hypertension levels of 116 to 159 mg (Chi2 = 0.000).

Finally the presence of obesity (by BMI) showed a positive influence (Chi2 = 0.03) on hypertension and burnout.

RESULTS

Framingham Index and Mortality Risk to 10 years in the firefighters:

14.1% had moderate risk and 9.4% maximum risk of suffering a cardiovascular disorders



0.8% presented a moderate risk. And 99.2% had a low risk mortality in 10 years.

CONCLUSIONS

- ✓ That there is a significant association between burnout and hypertension in firefighters.
- ✓ With a prevalence of 10% in those of hypertension and 2% of burnout.
- ✓ Seniority, BMI and low cholesterol levels were also associated to Burnout and hypertension.

Mexico City firefighters are exposed to chronic job stress that causes in them BO and HTA. For this reason, it is fundamental to impel in a short term preventive actions to avoid more health damages of this important group of workers.

RECOMMENDATIONS

Organizational and Individual Levels:

- Establish feedback mechanisms of the employment outcome
- Promote teamwork and peer social support at work.
- To improve communication networks and establish clear lines of authority and responsibility.
- Enable it to identify or resolve technical problems and to promote good conduct.
- Encourage the system of participatory democracy at work.
- Increasing the degree of autonomy and job control, decentralized decision-making.



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THANK YOU!

**Good wishes to
all and happy
evening.**

