

Cognitive impairment due to exposure to mixture of organic solvents in hospital pathologists in Mexico City

M Sc. **Marlene Rodríguez-Martínez**
Sp. Adriana García-García
Dr. José Horacio Tovalin-Ahumada

Occupational Health Specialization Graduate Program, Facultad de Estudios Superiores Zaragoza, UNAM.

Introduction

- Different neurobehavioral effects have been reported in industrial and hospital workers from their chronic exposure to organic solvents.
- This research studies workers from the pathology department, that are exposed throughout the workday to a mixture of Formaldehyde, Xylene, Glutaraldehyde, resins and paraffin.

Objetive

- To determine the type of predominant neurobehavioral effects present and the labor variables associated with expose to mixture organic solvents.

Method

- A comparative study was made.
- 39 hospital workers were divided into 3 groups: exposed (10), indirectly exposed (10) and non exposed (19).
- A battery of neurobehavioral tests were applied.
- Information about sex, age, smoking, alcohol and body mass index were collected.

Results

- To asses the association among neurobehavioral effects and exposure to mixes organic solvents, U test, Chi2, Odd Ratio and linear regression were used.

Results

Table. 1 General Characteristics of sample

AGE	Marital status	Years in job	Education	Body mass index
43	69% With partner	10 years non exposed	43 % with high school	68% had obesity
43	34% without partner	17 years exposed	53 % technical career	Less than 7% had normal weight

Results (2)

- We analyzed auditory, visual and visuospatial memory, attention, language, mood, precision motor, etc.



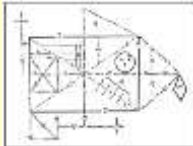
Auditive memory capacity

Group	Capacity
Exposed	10.8
Indirectly exposed	11.05
Non exposed	14.4

(chi2= 10.86 p=0.004)

Visuospatial memory

We found that exposed workers have less precision motor, more mistakes and they were slower than the other groups (chi2= 8.2 p= 0.05).



Focalized language

Group	Words promedio
Exposed	10 words
Indirectly exposed	12 words
Non exposed*	21 words

(chi2=13.59 p=0.001).

Odds ratio

- The chance of deterioration in verbal fluency focused is seven times higher in workers exposed to organic solvents than those not exposed.

CAPABILITY	RISK
VERBAL FLUENCY	(OR=7, p = 0,005)

Logistic regression

- The statistical regression showed no association by age, sex or age in the targeted language, was only associated with exposure and BMI.

Logistic Regression (2)

Psichological Process	Asosiation variables
Visuospatial Memory	Moderate smoking
Auditive Memory	Age Year in job

(R= .346, F= 6.18 p= 0.002).

Conclusion

- This study verifies the reported in the literature: **organic solvents have repercussions for higher cognitive processes.**
- The effect in our workers alert about cognitive effects that can have in short term.
- Cognitive impairment may make it difficult neuropsychological rehabilitation routes in the future.

4ER CONGRESO INTERNACIONAL FORO DE LAS AMERICAS
 Primer Congreso Internacional sobre Factores Psicosociales del Trabajo, Estrés y Salud Mental
 Bogotá del 27 al 29 de octubre de 2013.

**FIRST INTERNATIONAL CONGRESS AND FOURTH FORUM OF THE AMERICAS
 WORK PSYCHOSOCIAL FACTORS, STRESS AND MENTAL HEALTH**

Temas:

1. Factores psicosociales del trabajo y salud mental
2. Estrés y salud mental en el trabajo
3. Salud mental y bienestar en el trabajo
4. Estrés y salud mental en el trabajo
5. Estrés y salud mental en el trabajo
6. Estrés y salud mental en el trabajo
7. Estrés y salud mental en el trabajo
8. Estrés y salud mental en el trabajo
9. Estrés y salud mental en el trabajo
10. Estrés y salud mental en el trabajo

INVITACION
 Este evento es gratuito y abierto a todos los interesados en el tema.
 Para más información y para inscribirse, visite el sitio web: www.congreso4am.com

Fecha límite para la inscripción de asistentes: **30 DE JUNIO DE 2013**