



INFORMACIONES ADMINISTRATIVAS
MEDDELSER FRA ADMINISTRATIONEN
VERWALTUNGSMITTEILUNGEN
ΔΙΟΙΚΗΤΙΚΕΣ ΠΛΗΡΟΦΟΡΙΕΣ
ADMINISTRATIVE NOTICES
INFORMATIONS ADMINISTRATIVES
INFORMAZIONI AMMINISTRATIVE
MEDEDELINGEN VAN DE ADMINISTRATIE
INFORMAÇÕES ADMINISTRATIVAS
HALLINNOLLISIA TIEDOTUKSIA
ADMINISTRATIVA MEDDELANDEN

Spécial INTERINSTITUTIONS
TOUS LIEUX D'AFFECTATION
+ PENSIONNES

COMMUNICATION AU PERSONNEL

Ainsi qu'il avait été annoncé dans la communication au personnel du 14 novembre 1996, vous trouverez ci-joint le texte intégral dans sa version préliminaire de l'étude pilote sur l'amiante BERL effectuée par le Pr. Nemery.

Docteur Nicolas HOFFMANN
Chef du Service médical

Pilot study Berlaymont 1996

H. De Raeve, J. Verschakelen* &
B. Nemery

Pneumology&*Radiology/K.U.Leuven

Pilot study Berlaymont 19%

- ✘ Introduction
- ✘ Health screening
- ✘ Results
- ✘ Conclusion

1 Introduction

✘ Asbestos, a "wonder" fiber

✘ Problems

- Occupational inhalation can lead to pulmonary or pleural diseases
- Effect of environmental/residential exposure is not well known

✘ What now?

- Evacuation of Berlaymont building
- Pilot study of possible health effects in employees

2 *Health screening*

x History

- Medical history (lung & pleural diseases)
- Respiratory symptoms (standardised questionnaire)
- Smoking habits
- Occupational & residential history

x Lung function tests

- Spirometry with determination of Residual volume
- Plethysmography (Raw & sGaw)
- Diffusion capacity (single breath)

2 Health screening

x Sputum induction

- Determination of asbestos bodies & naked fibers

x Chest X-Ray & CT-scan of thorax

- Detection of pleural plaques

3 *Results*

- ✗ Study population
- ✗ Lung function tests
- ✗ Prevalence of pleural plaques

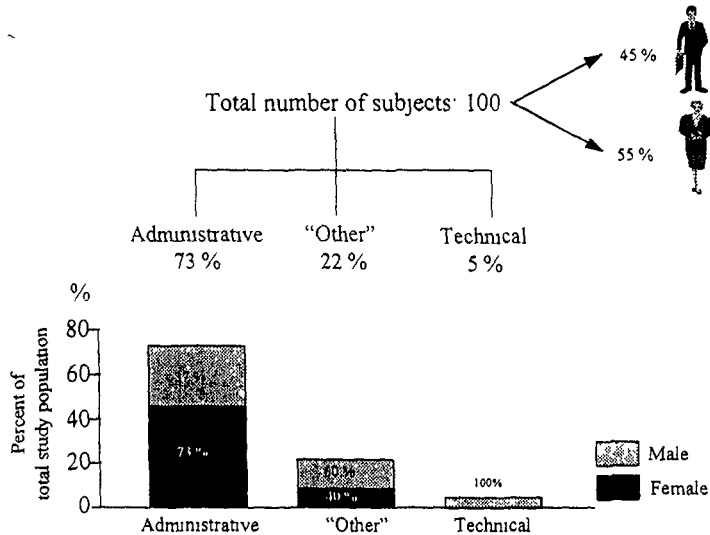
3.1 Study population

- ✘ General information
- ✘ Subdivision based on job description
 - Administrative personnel
 - "Other" personnel
 - Technical personnel
- ✘ Subdivision based on smoking history
 - Smokers
 - Ex-smokers
 - Non-smokers

3.1.1 General information

Total study population (n=100)	Female	Male
<i>n</i>	55	45
<i>Age (y)</i>		
Mean \pm SD	53.9 \pm 6.0	56.2 \pm 7.7
Range	44 to 68	40 to 77
<i>Smoking history</i>		
Non-smokers	24 (43.5 %)	16 (35.5 %)
Ex-smokers	25 (45.5 %)	20 (44.5 %)
Smokers	6 (11.0 %)	9 (20.0 %)
<i>Job description</i>		
Administrative	46 (83.5 %)	27 (60.0%)
"Other"	9 (16.5 %)	13 (29.0 %)
Technical	0 (0.0 %)	5 (11.0 %)
<i>Employment in Berlaymont (y)</i>		
Mean \pm SD	16.5 \pm 4.5	17.4 \pm 4.5
Range	10 to 22	10 to 24

3.1.2 *Subdivision based on job description*

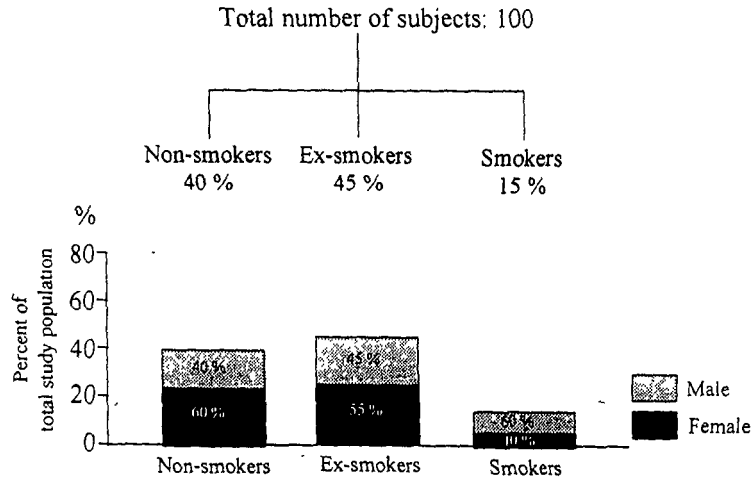


x Description of technical personnel

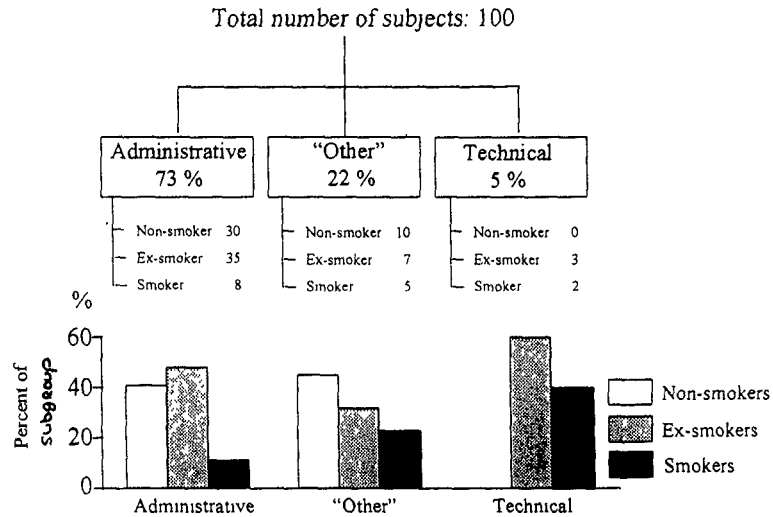
Sex	Age (y)	Previous exposure	Employment Berlaymont	Function
M	55	*	22 y	installation and maintenance electrical equipment
M	45		14 y	chief maintenance of Berlaymont building
M	47	*	21 y	installation of telephones involving pulling cables
M	54	*	26 y	installation and maintenance electrical equipment
M	49		20 y	maintenance air conditioning

** were previously hired by another company that was involved in the installation of electrical equipment during the construction of the Berlaymont building*

3.1.3 Subdivision based on smoking history



x Smoking history *versus* job description



3.2 Lungfunction tests

x Lung function *versus* job description



		<u>Administrative</u>	<u>"Other"</u>	<u>Technical</u>
FVC %	112.9 ± 15.9	113.2 ± 14.6	109.8 ± 20.3	122.6 ± 12.5
FEV1 %	104.9 ± 14.8	105.4 ± 13.9	101.0 ± 17.4	115.2 ± 13.5
Tiff.	0.77 ± 0.07	0.78 ± 0.07	0.76 ± 0.06	0.76 ± 0.06
PEF %	101.9 ± 19.9	101.1 ± 17.1	101.4 ± 28.6	108.2 ± 11.4
MEF ₅₀	88.7 ± 29.8	88.6 ± 29.5	85.8 ± 29.8	103.6 ± 34.7
MEF ₂₅	64.2 ± 26.1	65.6 ± 28.6	59.8 ± 26.1	61.3 ± 21.7
RV %	96.7 ± 24.3	99.4 ± 24.3	87.5 ± 25.4	97.0 ± 5.2
TLC %	103.6 ± 14.2	104.5 ± 13.3	99.2 ± 17.6	109.6 ± *6.1
SGaw %	139.1 ± 43.4	138.3 ± 43.8	135.4 ± 39.9	168.4 ± 51.9
TLCO %	90.4 ± 15.4	89.4 ± 13.9	94.7 ± 15.7	96.4 ± 23.1

3.2 Lungfunction tests

Lung function *versus* smoking history



		<u>Non-smokers</u>	<u>Ex-smokers</u>	<u>Smokers</u>
FVC %	112.9 ± 15.9	110.0 ± 15.9	114.4 ± 21.3	106.9 ± 13.1
FEV1 %	104.9 ± 14.8	103.7 ± 14.8	106.7 ± 15.1	99.7 ± 12.6
Tiff.	0.77 ± 0.07	0.78 ± 0.07	0.76 ± 0.07	0.77 ± 0.07
PEF %	101.9 ± 19.9	98.7 ± 19.9	104.1 ± 17.2	97.8 ± 17.9
MEF ₅₀	88.7 ± 29.8	94.8 ± 30.5	84.5 ± 30.4	83.6 ± 24.7
MEF ₂₅	64.2 ± 26.1	69.8 ± 30.5	59.7 ± 26.6	60.4 ± 21.5
RV %	96.7 ± 24.3	88.9 ± 24.3	102.3 ± 22.6	101.7 ± 21.4
TLC %	103.6 ± 14.2	98.7 ± 14.2	107.4 ± 12.9	102.2 ± 13.3
SGaw %	139.1 ± 43.4	149.7 ± 43.9	131.4 ± 44.1	129.4 ± 38.1
TLCO %	90.4 ± 15.4	87.1 ± 15.4	96.2 ± 13.9	85.7 ± 13.6

3.3 *Prevalence of pleural plaques*

- Prevalence in total study population
- Prevalence *versus* job description
- Prevalence *versus* smoking history
- Prevalence *versus* duration of employment in Berlaymont building

3.3 Prevalence of pleural plaques

✗ In total study population

Total study population (n=100)	Female	Male
n	55	45
Pleural Plaques		
Bilateral (PPB)	1 ^a	8 ^{a,b}
Unilateral (PPU)	0	4 ^b

^a: 1 person with tbc history
^b: 1 person with history of pleuritis in his youth

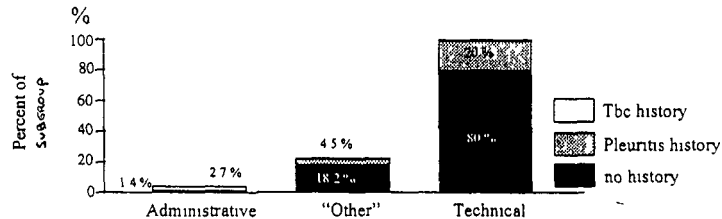
No cases of asbestosis, mesothelioma, diffuse pleural thickening or lung cancer

3.3 Prevalence of pleural plaques

x Versus job description

	Administrative n/tot	"Other" n/tot	Technical n/tot	Total n/tot
Female	1 ^a /46	0/9	0/0	1/55
Male	2 ^a /27	5 ^b /13	5 ^b /5	12/45
Total	3/73	5/22	5/5	13/100

^a 1 person with tbc history
^b 1 person with pleuritis history



3.3 Prevalence of pleural plaques

x Versus smoking history

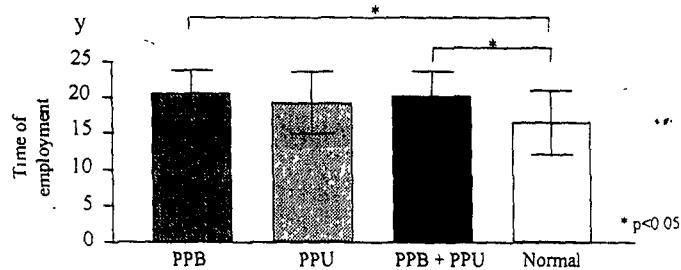
	PPB	PPU	Total	
Smoking (n=15)	3	0	3	(20.0 %)
Ex-smoking (n=45)	3 ^b	2	5	(11.1 %)
Non-smoking (n=40)	3 ^{a,b}	2 ^a	5	(12.5 %)

^a 1 person with history of tbc
^b 1 person with history of pleuritis

3.3 Prevalence of pleural plaques

x Versus duration of employment

	Duration of employment (y)	n
Bilateral pleural plaques (PPB)	20.6 ± 3.3	9
Unilateral pleural plaques (PPU)	19.3 ± 4.3	4
PPB + PPU	20.2 ± 3.5	13
Normal	16.5 ± 4.4	87



3.3 Prevalence of pleural plaques

x in total population (n=113)

Subj.	Sex	Age (y)	Berl. (y)	Fct.	Smk.	Dur. (y)	Cig./ day	Rx.	CT.	Remarks
003	M	61	21	O	E	40	10	/	PPU	archivist
015	M	56	13	A	E	13	30	/	PPU	
045	M	56	23	O	N	0	0	PPU	PPU	archivist
100	M	64	20	A	N	0	0	PPU	PPU	<i>tbc history</i>
086	M	55	22	T	E	18	25	/	PPB	maintenance electricity
036	M	58	22	O	N	0	0	PPB	PPB	receptionist, <i>pleuritis</i>
044	M	45	14	T	S	23	2	/	PPB	<i>pneumonia</i>
011	M	58	21	O	N	0	0	/	PPB	archivist
026	M	47	21	T	S	26	15	PPB	PPB	electrical installation
060	M	54	26	T	E	24	20	/	PPB	electr install, <i>pleuritis</i>
063	F	61	21	A	N	0	0	/	PPB	<i>tbc, pneumothorax</i>
075	M	49	20	T	E	7	16	/	PPB	electr install, airco
079	M	50	18	O	S	32	50	/	PPB	
034*	F	43	7	A	E	1	1	/	PPB	
016*	F	39	7	A	N	0	0	/	PPB	

* subjects not included because inclusion criterium (> 10 y in Berlaymont building) not met

4 Conclusion

- Nobody was diagnosed with
 - Asbestosis
 - Lung cancer
 - Mesothelioma
 - Diffuse pleural thickening
- "High" prevalence of pleural plaques
(13 %)

4 *Conclusion*

- Presence of pleural plaques is correlated with:
 - Job function
 - Duration of employment