SMOKING PROFILE AND COPD IN EAST JAVA (AN EPIDEMIOLOGIC SURVEY)

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Smoking profile and COPD in East Java : an epidemiologic survey

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INTRODUCTION :

This report is part of an epidemiologic survey on COPD in East Java, conducted in 1991 by the Department of Pulmonology, Airlangga Medical Faculty with full support and cooperation from the Health Inspectorate of East Java.
Some stats from the COPD survey are :

Every county (kabupaten) in East Java is represented by 1 health center (HC), randomly chosen by the supervisor of health centers of East Java. Survey was done by questionaire, peakflow monitoring and bronchodilator reversability.
35 of the 37 Health centers chosen for this survey complied to the study protocol, resulting in 6144 valid cases.

As defined by the questionaire the prevalences after age and sex adjustments are :

COPD / HC : range : 3.8 - 35.1 %, mean 13.4 % (SE=1.1)
Asthma/HC : : 1.8 - 23.4 %, 7.7 % (SE=0.78)

STUDY DESIGN :

A COPD survey based on : Questionaire, Lung function testing and Bronchodilator reversibility, was designed to be conducted in all 37 administrative areas of East Java. Each administrative area to be represented by 1 health centre (HC), which were randomly chosen by an officer of the Inspector of Health of East Java.
The doctor in charge of the HC's were given a 2 day training on COPD and data collecting technicalities. A supervising team of pulmonologists visited the HC's during the 4 weeks data collecting period.

The Questionaire was modelled upon the questionaire of the ATS (American Thoracic Society) - Pneumobile Indonesia Project and the Respiratory Symptom Questionaire of the Institute of Respiratory Medicine, N.S.W.,Australia.
A pilot study of the questionaire had been conducted at the University clinic / Dr.Soetomo General Hospital : evaluating its ease of administration, which special emphasis on the understanding of the wording of the questions.

COPD was assessed from question no.(8 PLUS 9) OR 15-b
Chronic Bronchitis from question no. 8 PLUS 9
Bronchial Asthma from question no. 15-b
(see addendum : questionaire)

While smoking was assessed in
Question 25 :

Do you or did you smoke regularly at least 1 cigarette a day for at least 12 months ? Yes / No

if YES, go to question :

25 a. Since what age ? []

25 b. on average, how many cigarettes a day ? []

25 c. type of cigarette ?

1. plain, w/o filter
2. plain w. filter
3. clove, w/o filter
4. clove w. filter
5. self rolled cigarette
6. "klobot" cigarette
7. pipe
8. cigar

25 d. If you have stopped smoking, when did you stop ?

19 []

Lung function testing was done using a Mini Peakflow meter from Airmed, Predicted values were taken fron the Gregg and Nunn graph and checked against the pneumobile project derived formule. The best of 3 PEFR measurements on each subject was chosen.
PEFR was deemed impaired if observed PEFR < 0.6 * predicted PEFR (male) and < 0.65 * predicted PEFR (female)

Bronchodilator tests using 2 puffs of Terbutaline (0.25 mg/ puff) were conducted on subjects whose observed PEFR were impaired. Reversibility was regarded as positive if a 15 % improvement over the observed PEFR was obtained 15 minutes after the bronchodilator inhalation.

Subject (respondent) selection :
Respondents were randomly chosen from the daily patients of the HC ranging from 13 - 60 yrs, based upon computer generated random numbers matched to the visiting order, regardless of reason of HC visit.
Each HC was innitially given 200 questionaires, which can be repleted according to need during the 4 week study.

RESULTS :

1.DATA VALIDITY

36 out of 37 administrative areas participated in this COPD survey project (Situbondo : absent).
35 HC returned the Q, 1 defaulted (Proppo-Pamekasan)
Data validity was assessed through performance scoring of the HC's based upon :

1.1. Questionaire completion and adherence to age range : % of complete data and age range (13 - 60 yrs)
1.2. Accuracy of pred.PEFR readings from the provided graph from Gregg & Nunn, range +/- 10 %.
1.3. Compliance to study protocol : % of bronchodilator testing done where indicated.

Completion : of the 7200 questionaires(Q), 6662 were returned (92.5%), 6144 complete (92.2 % of the returned Q ; individual HC score, ranged from 83.1 - 99.5 %)

Accuracy : ranged from 13.6 - 94.4 %, average : 75.3 %
Compliance : ranged from 0 - 100 % average : 90.2 %

Data was regarded as valid if the total score of Completion, Accuracy and Compliance > 80 % (240 out of a maximum 300 score)
30 out of 35 actively participating HC met these criteria.
So overall 30 out of 37 targeted HC's met the validity criteria (81 %). (Epidemiologic survey criteria based upon a population of 33 million and a disease prevalence of approximately 6.1 % (pilot survey - 1989) mandated a 75 % coverage)

2. QUESTIONAIRE VALIDITY.

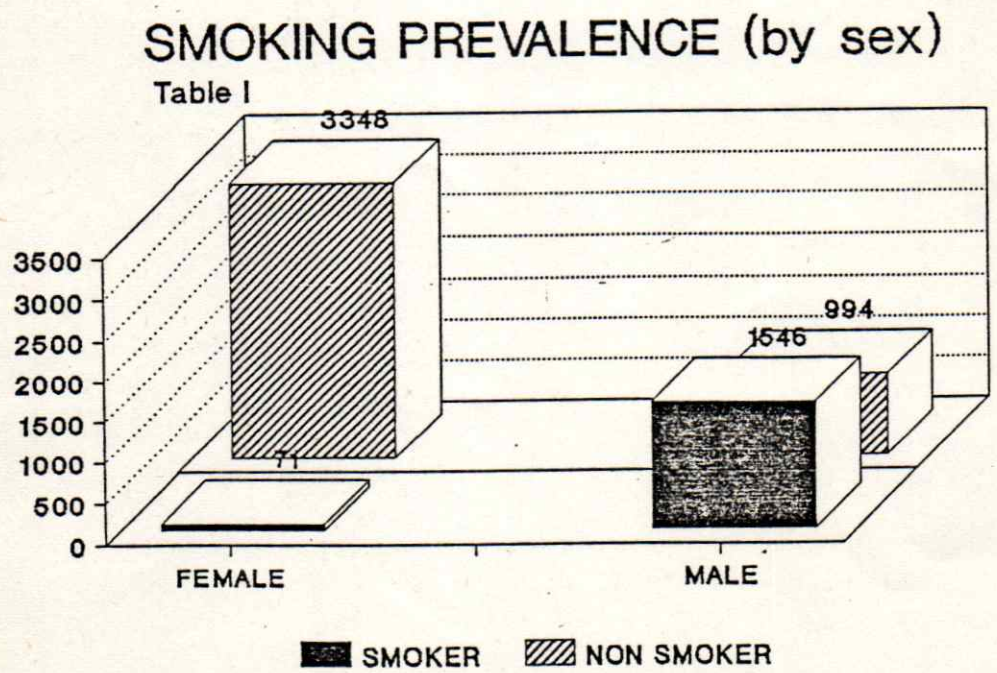
All questionaire based COPD survey's share the problem of questionaire validity. Eventhough the original ATS and Institute of Respiratory Medicine N.S.W. questionaires have been validated, their translation and adaptation to Indonesian needs, may compromise their validity. In this survey, the objective PEFR measurement and the bronchodilator reversibility are used to surmound this problem.(3)
This problem was addressed in a previous paper (1) concluding that the questionaire correlated well with the objective data provided by PEFR tests and bronchodilator reversibility. It also correlates well with certain data (on TB and smoking) from other sources.

3. SMOKING.

From table I in can be seen that 1546 men (60.3 %) were smokers as compared to only 71 (2 %) of the women.

Table I : SMOKING PREVALENCE BY SEX

	FEMALE	MALE	ALL
NON SMOKER	3348	994	4342
SMOKER	71 (2%)	1546 (60.3%)	1617
ALL	3581	2563	6144



4. SMOKING - and - COPD.

COPD prevalence is 13.1 % overall, in men 15.6 %, in women 11.3 %, while in male smokers it is 15.8 %

SMOKING & COPD

Table ii

	SMOKERS (+)	(-)	ALL
COPD (+)	245	154	399
COPD (-)	1301	840	2141
ALL	1546	994	2540

Risk of COPD in Smokers = 1.02

(245/1301 : 154/840)

5. SMOKING - and - CHRONIC BRONCHITIS

The prevalence of Chronic bronchitis is 7.7 % overall, in men 9.2 %, in women 6.6 %, while in male smokers 10.3 %

SMOKING & CHRONIC BRONCHITIS

Table III

	smokers (+)	(-)	all
chr.bronchitis (+)	159	78	237
chr.bronchitis (-)	1387	916	2303
all	1546	994	2540

risk of Chr.Bronchitis in Smokers = 1.3

(159/1546 : 78/994)

6. SMOKING - and - IMPAIRED PEFR

Impaired Peak Expiratory Flow rate was recorded in 12.4 % of all respondents, 13.9 % of the men, 11.4 % of the women and in 14.2 % of the male smokers.

Table IV

	Smokers (+)	(-)	all
imp.PEFR	(+) 220	136	356
	(-) 1326	858	2184
all	1546	994	2540

Risk of impaired PEFR in smokers = 220/1546 : 136/994 = 1.04

7. SMOKING - and - ASTHMA

The prevalence of Asthma is 8 % overall, in men 9.6 %, in women 6.4 % and in male smokers 9.2 %.

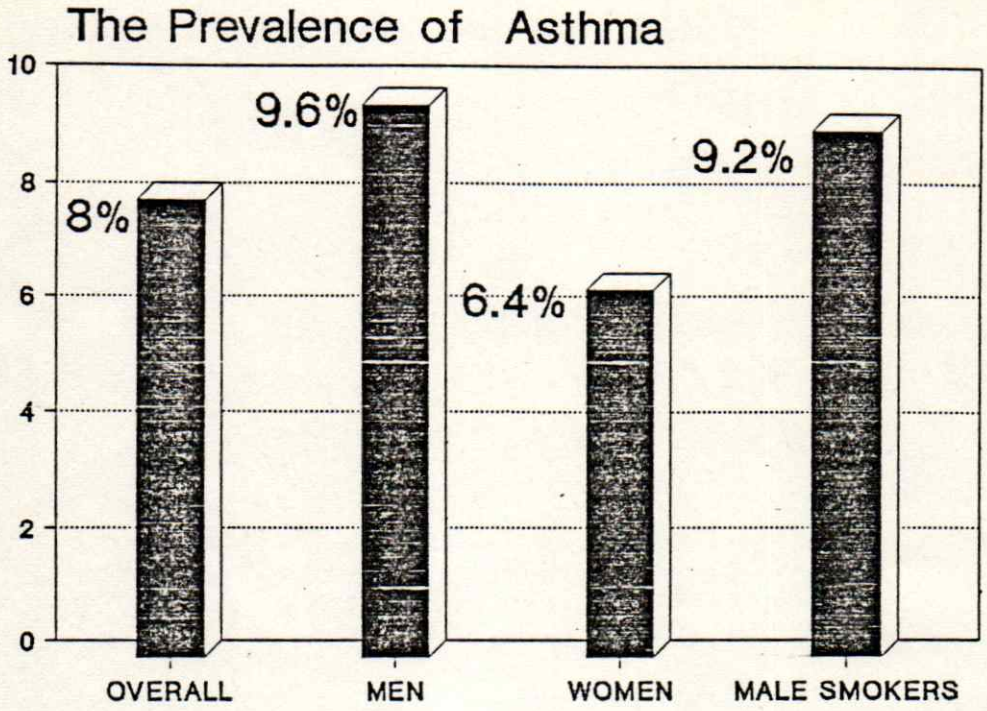


Table V.

		Smokers (+)	Smokers (-)	all
ASTHMA	(+)	142	104	246
	(-)	1404	890	2294
all		1546	994	2540

Risk of ASTHMA in smokers: 142 / 1546 : 104/994 = 0.88

8. TYPE of CIGARETTE

Distribution according the type of cigarette smoked can be seen in table VI, where clove cigarettes made up 61.5 % of the total, and filter cigarettes (plain and clove) are smoked by 57.4 % of the smokers.
On the issue of stopping smoking, it can be seen from table VII that 270 (17.5 %) have quit smoking, but only 154 (10 %) have done so for more than 1 year, table VI shows that the type of cigarette may influence the difficulty of stopping smoking as only 12.6 % of the clove filter cigarette smokers have stopped smoking.

table VI

	Type of cigarettes							
	1	2	3	4	5	6	7	all
All smokers	44	191	255	696	209	82	1	1546
(%)	2.8	12.4	16.5	45.1	13.5	5.3	0.1	100
stopped smoking	12	33	72	88	31	19	-	270
(%)	27.3	17.3	28.2	12.6	15	23		17.5

Code Type of Cigarette :

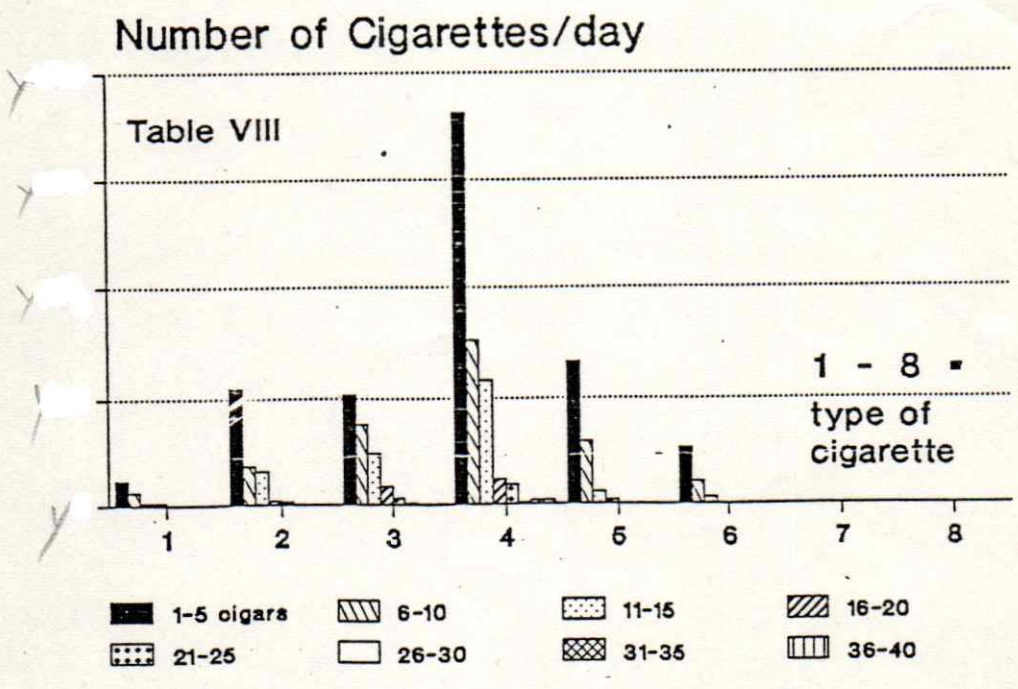
1 = plain w/o filter 2 = plain w. filter
3 = clove w/o filter 4 = clove w. filter
5 = self rolled cigarette 6 = "klobot"cigarette
7 = pipe 8 = cigar

Table VII

	Stopped smoking since 19 ..					
	1970 -	1975 -	1980 -	1985 -	1990 -	ALL
total	11	14	29	91	116	270

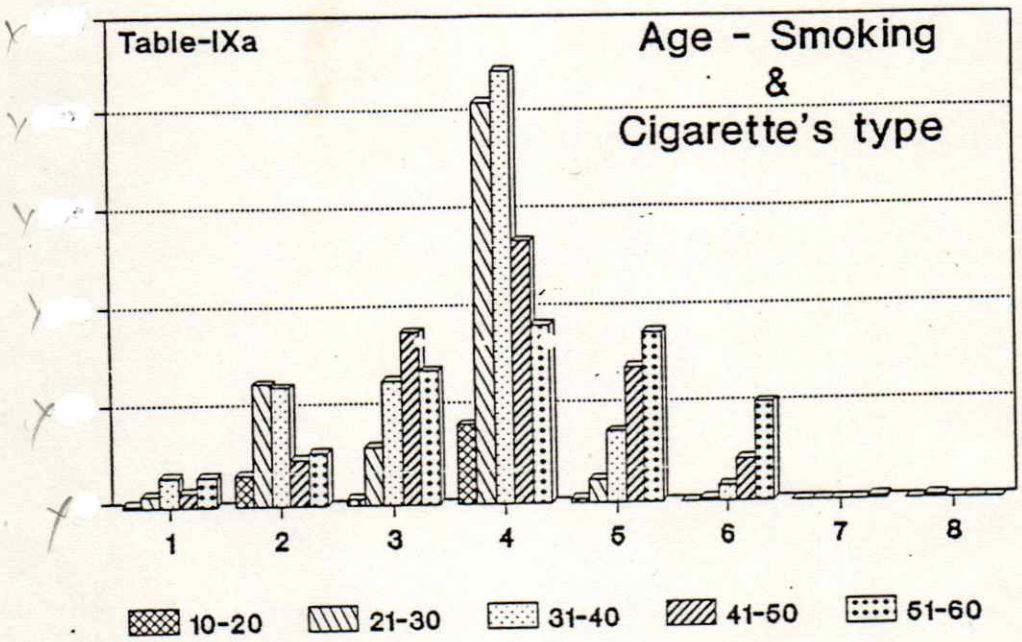
9. NUMBER of cigarettes / day

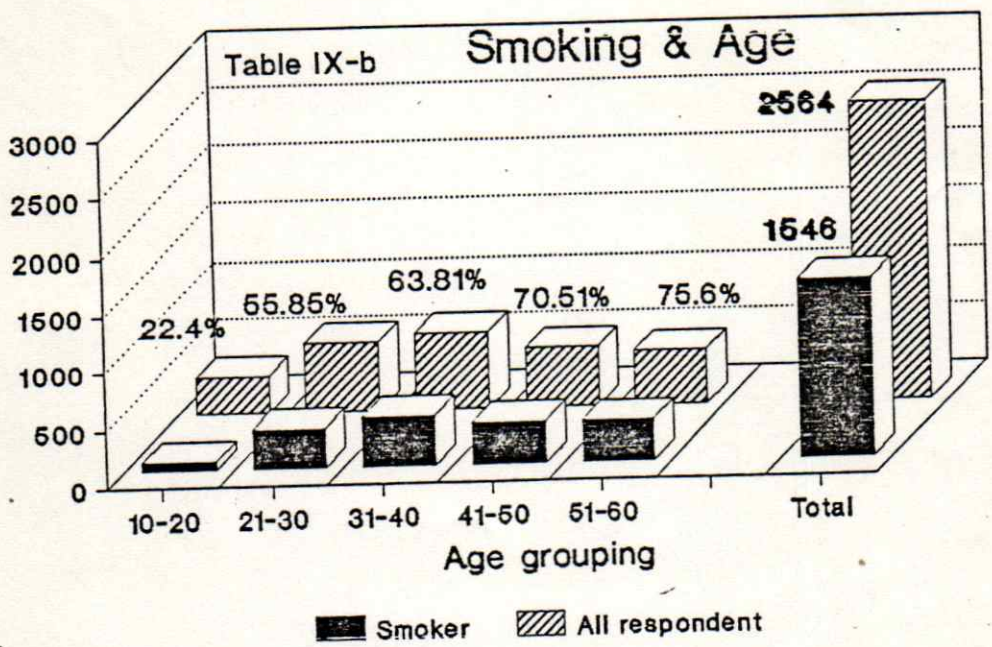
Table VIII shows that approximately three quarters of the smokers can be classified as light smokers (less than 10 cigarettes /day - 76.6 %) and that more than half are even smoking less than 5 cigarettes / day.
Calculating the number of cigarettes / day / male smoker comes to 6.7 cigarettes / day / male smoker and to 4 cigarettes / day / male respondent.
Type of cigarette seems not to have an influence on the amount smoked. The data also did not confirm the opinion that filters will make the smoker smoke more cigarettes, as the ratio between non filter and filter cigarettes remain approximately 1 / 3 throughout table VIII



10. AGE - and - SMOKING

The younger the respondent the less likely he is to smoke (22.4 % - table IX), but this frequency is going up linearly, reaching more than 75 % in the 50 and over age group. On the other hand most of the quitters are in the above 40 and above 50 group, which together account for almost half of the quitters (46.9%)





Most of the smokers have started to smoke in their late teens (596 / 1547 = 38.5 %) and more tha three quarters started to smoke before the age of 25 (77.2 %) - table X. No particular preference for certain type of cigarette at the different age grouping, with clove filter cigarettes remaining the favourit throughout the table.

Table X. Age of starting smoking - type of cigarette

	AGE of starting smoking									
	10-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60
1.	3	12	16	6	3	1	-	1	1	-
2.	19	73	50	29	6	5	4	1	1	-
3.	27	87	78	38	13	4	1	1	1	1
4.	71	279	196	89	34	6	7	2	-	-
5.	28	85	61	24	4	1	3	-	-	-
6.	11	39	15	10	3	2	-	-	-	-
7.	-	1	-	-	-	-	-	-	-	-
8.	-	1	-	-	-	-	-	-	-	-
ALL	165	596	434	202	64	19	18	5	3	2

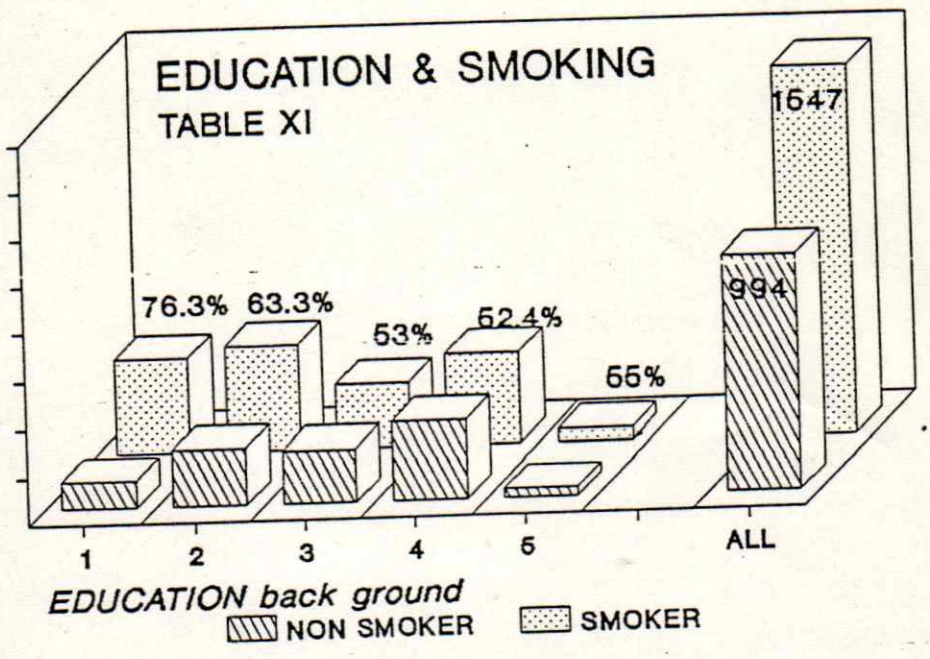
11. EDUCATION and SMOKING

The data suggest that the less educated are smoking more than the better educated (table XI)

Table XI

EDUCATION - SMOKING - TYPE of cigarette

code : 1 = no education 2 = grade school 3 = junior high
4 = senior high 5 = college



12. SMOKING AND FIELD of WORK

Analysis was performed by separating the private sector from the civil servants. Both groups were comparable in the percentage of smokers, there were 60 % smokers in the private sector and 61.4 % in the civil servants, but 75.2 % of the civil servants smoked the more expensive clove cigarettes (w or w/o filter) v/s 57.4 % in the private sector (table XII)

12 A. PRIVATE SECTOR - and - SMOKING

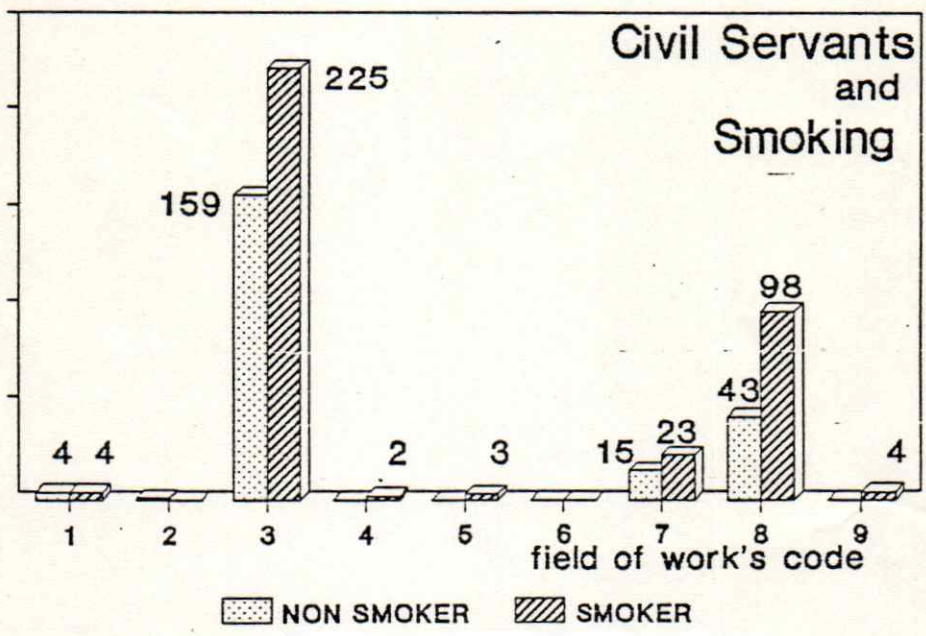
Table XII

Private sector and Smoking

code (field of work) :
1 = farmer/fishermen 2 = poultry 3 = white collar
4 = blue collar 5 = driver/heavy machinery
6 = jobless/pensioner 7 = armed forces
8 = health officer 9 = miscellaneous

		FIELD of WORK								
		1	2	3	4	5	6	7	8	9	all
smoker	(-)	226	2	224	70	24	91	4	3	105	772
	(+)	632	7	145	96	63	49	14	2	142	1188
type	1	12	-	2	3	3	1	1	-	2	27
	2	54	1	25	9	9	8	1	-	38	150
	3	106	-	16	14	9	4	1	1	29	188
	4	192	3	89	59	36	28	10	1	61	494
	5	173	3	7	8	-	1	1	-	7	201
	6	66	-	2	2	-	3	-	-	3	78
	7	1	-	-	-	-	-	-	-	-	1
	8	1	-	-	-	-	-	-	-	-	1

12.B CIVIL SERVANTS and SMOKING
(same code in field of work)



13. SMOKING AND DRINKING

Drinking was defined as a habit of drinking 3 or more bottles of an alcohol containing drink / week.
It can be seen from the following table that drinking is by far more prevalent in smokers than non smokers.

		DRINKING		
		YES	NO	
SMOKING	YES	72	1362	1434
	NO	10	894	994

DISCUSSION :

1546 men or 60.3 % of the male respondents confessed to being smokers, while only 71 (1.8 %) of the women did so. So analysis was only carried out on the men, as there were too few women smokers to give meaningful analysis.

Statistical calculation of the risk ratios didnot fulfill expectations in confirming the ill effect of smoking on pulmonary health as judged by COPD prevalences. There was almost no increase in risk for COPD in smokers as compared to non smokers, and even a lesser risk for asthma (0.88), although the risk for chronic bronchitis was 30 % higher, which may be due to what is populary called "smokers cough".
Objective PEFR readings also confirm the questionaire results denoting a risk of impaired PEFR in smokers of 1.04 as compared to non smokers.
Whether smoking is not as harmful as suggested or whether there are other factors masking its harmful effects is open for discussion, since the COPD prevalence in this study is considerably high (13.1 %) although the asthma prevalence of 8 % compared well with the medical literature.

An interesting finding is the lower risk ratio for asthma observed in smokers (0.88), which, combined together with the high consumption of clove cigarettes, may suggest an improvement in bronchial hyperreactivity brought about by the anesthetic byproduct of the cloves. Although admittedly a less radical reason may explain this, that is, natural selection by the asthma patient himself, shying away from smoking because of its ill effects on him.

On the subject of education and smoking, it can be seen that the less educated the more one smokes, so education in general like raising the compulsory schooling to junior high level may result in less smokers in the future.

Looking at the male civil servants, especially those involved in health services (code 8 - paragraph 12 B / results), it is very disappointing to find that 69.5 % (98 out of 141) are smokers, only 12.2 % have quit, three quarters (9 out of 12) have quit after the ban on smoking by the minister of health at health facilities. Clearly this must be improved if it is expected that the public at large will follow suit and stop smoking. With their knowledge on the effect of smoking on health it is clear that scare tactics like " If you don't stop, than you will get (whatever malady) " won't work. Public, family and peer pressure may be required to bring down the smoking "epidemic".

Affluence plays a part in the type of cigarette smoked, with the better educated and the civil servants by far choosing the more expensive clove cigarettes.

Drinking and smoking may be going hand in hand as was shown that 87.8 % of the drinkers were smokers too.

The average number of cigarettes / day smoked is 6.7 / smoker with translated to 4 / male respondent. Given the 13 million male population of East Java, above 13 yrs, this gives a staggering 52 million cigarettes / day . If the average cigarette cost Rp 50.00, than approximately 2.5 billion rupiah will be going up in smoke / day in East Java alone.

CONCLUSION :

1. prevalence for asthma in East Java is 8 %
   for COPD it is 13.1 %
   for chr.bronchitis, it is 7.7 %
   while impaired PEFR is 12.4 %

2. 1546 or 60.3 % of the men were smokers, while only 71 or 1.8 % of the women were.
Clove cigarettes were by far the most often smoked cigarette, accounting for 62 % of the cigarette smoked.

3. risk ratio of smokers compared to non smokers, in
   COPD was : 1.02
   Impaired PEFR : 1.04
   Chr.bronchitis : 1.3
   Asthma : 0.88

4. Late teen years seem to be the most susceptible years for acquiring smoking habit.

5. Smoking is a very expensive habit. It is estimated that 2.5 billion rupiah / day are going up in smoke in East Java.

6. It is conceivable that clove may lessen the bronchial hyperreactivity in asthma, which may be brought about by the anesthetic effect of clove oil. However this will require a separate study.

7. Male civil servants in health centers are not giving a good example in regard to smoking. The figures are : 69.5 % smokers, and only 3 (3 %) have quit for longer than 5 years, while most of the quiters (9 out of 98 smokers) have done so after the ban on smoking at health facilities by the minister of health

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yperreactivity in asthma, which may be brought about by the nesthetic effect of clove oil. However this will require a eparate study.

DDENDUM

ABEL A . Code number - Impaired Peakflow readings - COPD((Q8+Q9)or Q15-b) - Chronic bronchitis(Q8+Q9) - Asthma(Q15-b) - by sex and percentage

CODE	IMP.PEAKFLOW				COPD				CHR.BRONCHITIS				ASTHMA			
	F	M	T	%	F	M	T	%	F	M	T	%	F	M	T	%
0001 - 0251	4	4	8	5.8	19	15	34	21.9	12	9	21	13.5	8	9	17	11
0251 - 0500	10	9	19	10.7	12	7	19	10.7	7	3	10	5.6	6	5	11	6.2
0501 - 0750	6	2	8	4.1	11	7	18	9.3	4	3	7	3.6	9	5	14	7.3
0751 - 1000	5	10	15	12.4	8	11	19	15.7	3	5	8	6.6	6	9	15	12.4
1001 - 1250	15	14	29	16	5	4	9	5	1	1	2	1.1	4	3	7	3.9
1251 - 1500	28	45	73	37.6	10	18	28	14.4	5	17	22	11.3	7	7	14	7.2
1501 - 1750	8	11	19	9.8	13	11	24	12.4	7	7	14	7.3	8	8	16	8.3
1751 - 2000	3	9	12	5.7	15	20	35	16.7	14	14	28	13.4	4	10	14	6.7
2001 - 2250	2	4	6	3.1	2	10	12	6.3	0	1	1	1	2	9	11	5.8
2251 - 2500	15	16	31	14.8	8	12	20	9.6	4	4	8	3.8	5	10	15	7.2
2501 - 2750	2	3	5	6.2	4	5	9	11.1	2	4	6	7.4	3	2	5	6.2
2751 - 3000	7	14	21	11.5	19	10	29	15.8	13	6	19	10.4	9	5	14	7.7
3001 - 3250	2	3	5	2.5	10	16	26	13	4	7	11	5.5	6	10	16	8
3251 - 3500	25	23	48	24	32	20	52	26	24	14	38	19	20	15	35	17.5
3501 - 3750	30	26	56	26	40	43	83	38.4	29	32	61	28.2	26	30	56	25.9
3751 - 4000	5	5	10	5.2	17	13	30	15.5	11	6	17	8.8	10	10	20	10.3
4001 - 4250	4	10	14	7.7	-	26	26	14.3	-	14	14	7.7	-	18	18	9.9
4251 - 4500	24	7	31	15.7	4	5	9	4.5	2	1	3	1.5	2	4	6	3
4501 - 4750	4	8	12	6	9	15	24	12	4	7	11	5.5	5	8	15	7.5
4751 - 5000	42	17	59	29.4	11	11	22	10.9	8	10	18	9	3	3	6	3
5001 - 5250	32	20	52	26.6	26	15	41	20.9	18	14	32	16.3	9	2	11	5.6
5251 - 5500	4	6	10	4.8	6	5	11	5.3	5	5	10	4.8	2	2	4	1.9
5501 - 5750	18	7	25	12.9	17	5	22	11.3	11	3	14	7.2	10	3	13	6.7
5751 - 6000	2	9	11	5.5	8	11	19	9.5	6	5	11	5.5	4	8	12	6
6001 - 6250	8	5	13	7.9	12	18	30	18.3	2	13	15	9.1	10	8	18	11
6251 - 6500	23	21	44	19.6	32	22	54	24	28	20	48	21.3	8	8	16	7.1
6501 - 6750	3	13	16	8	9	16	25	12.4	3	13	16	8	6	9	15	7.5
6751 - 7000	36	10	46	23.1	15	14	29	14.6	9	9	18	9	8	6	14	7
7001 - 7250	31	29	60	31.1	4	9	13	6.7	3	4	7	3.6	1	5	6	3.1
7251 - 7500	6	13	19	9.5	15	20	35	17.4	3	5	8	4	15	19	34	16.9
7501 - 7750	9	8	17	11.8	5	5	10	6.9	2	4	6	4.2	3	1	4	2.8
7751 - 8000	6	9	15	8.3	13	15	28	15.5	11	9	20	11	5	11	16	8.8
8001 - 8250	6	3	9	5.0	6	4	10	5.6	2	2	4	2.2	4	2	6	3.4
8251 - 8500	2	2	4	2.9	11	6	17	12.2	6	3	9	6.5	7	3	10	7.2
8501 - 8750	7	17	24	12	9	21	30	15	3	15	18	9	7	14	21	10.5
ALL	434	413	847(13 %)		437	465	902(13.9%)		266	289	555(8.5%)		242	281	523(8%)	

F.=female ; M.=male ; T.=total

TABEL B : Code number - Health Center Identity - Number of respondents with no missing data (N)- Female respondents(F) - Male respondents(M) - Accuracy (A- %) - Completion of Q (CP - %) - Compliance to protocol(PC) - HC Performance (PER = A+CP+PC)

Code number	Health Center	N	F	M	A	CP	PC	PER
0001 - 0250	Terminal,Gresik	152	88	64	83	97	100	280
0251 - 0500	Tarik,Sidoarjo	176	101	75	93	98	100	291
0501 - 0750	Kremb.Sel,Surabaya	193	142	51	61	98	88	247
0751 - 1000	Gunungsari,Bojonegoro	119	64	55	67	92	100	259
1001 - 1250	Walikukun,Ngawi	174	106	68	15	87	97	199
1251 - 1500	Grogol,Kediri*	191	79	112	79	94	0	173
1501 - 1750	Pesantren,Kodya Kediri	180	118	62	86	91	90	267
1751 - 2000	Ngronggot,Nganjuk	209	112	97	78	100	100	278
2001 - 2250	Sutojayan,Blitar	190	72	118	74	95	100	269
2251 - 2500	Kedungwaru,Tulungagung	198	123	75	64	95	97	256
2501 - 2750	Jenangan,Ponorogo	79	29	50	92	95	80	267
2751 - 3000	Gondangwetan,Pasuruan	182	110	72	49	91	100	240
3001 - 3250	Kandangsapi,Pasuruan	195	139	56	84	98	100	282
3251 - 3500	Kanigaran,Probolinggo	167	109	58	86	84	100	270
3501 - 3750	Tapen,Bondowoso	189	103	86	86	87	100	273
3751 - 4000	Kalisat,Jember*	185	109	76	63	92	90	245
4001 - 4250	Bluto,Sumenep	172	27	145	83	89	100	272
4251 - 4500	Pacet,Mojokerto	186	110	76	79	93	100	272
4501 - 4750	Kedungdung,Mojokerto	174	110	64	88	87	100	275
4751 - 5000	Cukir,Jombang	182	118	64	91	90	100	281
5001 - 5250	Rengel,Tuban	171	81	90	94	86	100	280
5251 - 5500	Tikung,Lamongan	206	155	51	78	98	100	276
5501 - 5750	Kodya Madiun	189	130	59	85	94	92	271
5751 - 6000	Rejomulyo,Magetan	194	101	93	82	97	100	279
6001 - 6250	Pringkuku,Pacitan	164	92	72	85	99	77	261
6251 - 6500	Bendo,Blitar	192	131	61	67	83	100	250
6501 - 6750	Karangan,Trenggalek	184	106	78	83	91	100	274
6751 - 7000	Kendal Kerep,Malang	191	143	48	75	96	80	251
7001 - 7250	Singosari,Malang	188	124	64	47	94	98	239
7251 - 7500	Kotaanyar,Probolinggo	197	84	113	86	98	100	284
7501 - 7750	Yosowilangun,Lumajang	138	89	49	63	92	69	224
7751 - 8000	Kebaman,Banyuwangi	176	99	77	79	92	100	271
8001 - 8250	Wungu,Madiun	172	108	64	81	94	89	264
8251 - 8500	Jrengik,Sampang	120	78	42	81	86	100	267
8501 - 8750	Kamal,Bangkalan	169	91	78	85	84	100	269
	ALL	6144	3581	2563				
	average score				98	70	88	256
	validity cut off score (>80%)							240
	not meeting requirements : 5 HC							

ABEL C : Code number - Health Center Identity - Number of respondents ith no missing data (N)- Female respondents(F) - Male respondents(M) - male smokers

ode number	Health Center	N	F	M	SMOKERS(M)	%
001 - 0250	Terminal,Gresik	152	88	64	34	53.1
251 - 0500	Tarik,Sidoarjo	176	101	75	46	61.3
501 - 0750	Kremb.Sel,Surabaya	193	142	51	28	54.9
751 - 1000	Gunungsari,Bojonegoro	119	64	55	35	63.6
001 - 1250	Walikukun,Ngawi	174	106	68	37	54.4
251 - 1500	Grogol,Kediri*	191	79	112	65	58
501 - 1750	Pesantren,Kodya Kediri	180	118	62	37	59.7
751 - 2000	Ngronggot,Nganjuk	209	112	97	69	71.1
001 - 2250	Sutojayan,Blitar	190	72	118	53	44.9
251 - 2500	Kedungwaru,Tulungagung	198	123	75	46	61.3
501 - 2750	Jenangan,Ponorogo	79	29	50	21	42
751 - 3000	Gondangwetan,Pasuruan	182	110	72	48	66.7
001 - 3250	Kandangsapi,Pasuruan	195	139	56	24	42.9
251 - 3500	Kanigaran,Probolinggo	167	109	58	37	63.8
501 - 3750	Tapen,Bondowoso	189	103	86	72	83.7
751 - 4000	Kalisat,Jember*	185	109	76	36	47.4
001 - 4250	Bluto,Sumenep	172	27	145	101	69.7
251 - 4500	Pacet,Mojokerto	186	110	76	27	35.5
501 - 4750	Kedungdung,Mojokerto	174	110	64	35	54.7
751 - 5000	Cukir,Jombang	182	118	64	39	60.9
001 - 5250	Rengel,Tuban	171	81	90	62	68.9
251 - 5500	Tikung,Lamongan	206	155	51	30	58.8
501 - 5750	Kodya Madiun	189	130	59	39	66.1
751 - 6000	Rejomulyo,Magetan	194	101	93	59	63.4
001 - 6250	Pringkuku,Pacitan	164	92	72	46	63.9
251 - 6500	Bendo,Blitar	192	131	61	42	68.9
501 - 6750	Karangan,Trenggalek	184	106	78	60	76.9
751 - 7000	Kendal Kerep,Malang	191	143	48	26	54.2
001 - 7250	Singosari,Malang	188	124	64	17	26.6
251 - 7500	Kotaanyar,Probolinggo	197	84	113	76	67.3
501 - 7750	Yosowilangun,Lumajang	138	89	49	33	67.3
751 - 8000	Kebaman,Banyuwangi	176	99	77	57	74
001 - 8250	Wungu,Madiun	172	108	64	38	59.4
251 - 8500	Jrengik,Sampang	120	78	42	30	71.4
501 - 8750	Kamal,Bangkalan	169	91	78	41	52.6
	ALL	6144	3581	2563	1546	60.3

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KWESIONER PPOM LAB. PARU F.K. UNAIR – RSUD DR. SOETOMO

E DAERAH RESPONDEN ☐☐☐ NOMOR URUT ☐☐☐☐

A PRIBADI

NAMA ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

KELAMIN LAKI ☐ WANITA ☐; KAWIN YA ☐ / TIDAK ☐ / PERNAH ☐

UMUR ☐☐ TAHUN

PEKERJAAN (pilih satu yang paling mendekati) ☐

1 = tani/tambak; 2 = ternak unggas; 3 = kantor/sekolah/toko; 4 = buruh pabrik/tambang;
5 = sopir/montir/alat berat; 6 = tidak kerja/ibu rumah tangga; 7 = abri/polri/saptam;
8 = dinas kesehatan; 9 = lain: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

4A. Apakah anda pegawai negeri? TIDAK ☐ YA ☐

PENDIDIKAN TERAKHIR (sama atau sederajat) ☐

1 = tidak sekolah/tidak lulus SD; 2 = lulus SD; 3 = lulus SMP; 4 = lulus SMA; 5 = sarjana

TUK	TIDAK	YA
Apakah anda sering batuk?	☐	☐
Apakah biasanya batuk pada waktu bangun pagi?	☐	☐
Apakah anda biasanya mengeluarkan riak/dahak pada waktu bangun pagi?	☐	☐
Pernahkah anda batuk hampir tiap pagi selama 3 bulan atau lebih dalam 1 th?	☐	☐
9A. Bila YA, apakah hal ini sudah berlangsung 2 th atau lebih	☐	☐

SAK		
Pernahkah anda mengalami sesak nafas tanpa sebab, dalam 12 bulan terakhir	☐	☐
Pernahkah anda mengalami sesak nafas sehabis kerja keras/olah raga dalam 12 bulan terakhir?	☐	☐
Pernahkah anda terbangun dari tidur oleh karena sesak, dalam 12 bulan terakhir?	☐	☐
Apakah anda merasa sesak apabila berjalan cepat pada jalan datar atau bila jalan agak mendaki?	☐	☐
Apakah anda mengalami kesulitan untuk berjalan bersama secepat orang lain yang seusia?	☐	☐

NGI/NAFAS BUNYI NGIK NGIK		
Apakah nafas anda pernah bunyi seperti mengi atau ngik ngik	☐	☐
Bila YA:		
15A. Pernahkah dalam 12 bulan terakhir?	☐	☐
15B. Apakah disertai sesak nafas?	☐	☐
15C. Apakah waktu itu sedang batuk-pilek/flu?	☐	☐
Pernahkah mengalami asma dalam 12 bln terakhir	☐	☐
Apakah saat ini sedang minum obat asma?	☐	☐

bila YA, apa obatnya : ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

AKIT PERNAFASAN/PARU/ALLERGI

	TIDAK	YA
Pernahkah menderita sakit paru sebelum usia 5 th?	☐	☐
Apakah dokter pernah menyatakan bahwa anda menderita:		
bronkitis	☐	☐
radang paru/pnemoni	☐	☐
paru basah/pleritis	☐	☐
asma/mengi	☐	☐
tbc/paru kotor	☐	☐
Apakah anda menderita allergi, misalnya		
sering pilek bersin terutama pagi hari	☐	☐
sering mengalami ekzema kulit	☐	☐
sering mata gatal	☐	☐

YAKIT LAIN YANG PENTING

Pernahkah anda menderita penyakit yang perlu pengobatan yang seksama, seperti		
sakit lever/hati/kuning	☐	☐
kencing manis/diabetes	☐	☐
sakit jantung	☐	☐
sakit ginjal	☐	☐
sakit kanker/tumor	☐	☐
Apakah saat ini, anda sedang meminum/memakai obat?		
obat asma	☐	☐
obat batuk/obat masuk angin - flu	☐	☐
obat antibiotik/kapsul	☐	☐

MAH TANGGA (pilih yang paling sesuai)

Anda paling sering memasak pakai apa? ☐
1 = arang/kayu bakar; 2 = minyak gas; 3 = LPG; 4 = tidak masak

Apakah anda memelihara binatang? ☐
1 = ayam/burung; 2 = kucing; 3 = anjing; 4 = tidak

KOK/MINUMAN KERAS

	TIDAK	YA
Pernahkah anda merokok teratur, setidaknya 1 batang rokok/hari selama sekurangnya 12 bulan?	☐	☐
bila YA,		
25A. Mulai usia berapa?	☐☐ tahun	
25B. Umumnya berapa batang/hari	☐☐☐	
25C. Jenis rokoknya? ☐		

1 = rokok putih tanpa filter; 2 = rokok putih filter; 3 = rokok kretek tanpa filter 4 = rokok kretek filter;
5 = rokok linting; 6 = rokok klobot; 7 = pipa; 8 = cerutu

25D. Bila sudah berhenti, sejak tahun berapa? 19☐☐

Seringkah anda minum minuman keras/alkohol/toak/bir sekurangnya 3 botol/minggu YA ☐ / TIDAK ☐☐

AL PARU : (diisi petugas kesehatan)

GGI BADAN: ☐☐☐ cm; BERAT BADAN: ☐☐ kg; PEFR pred: ☐☐☐

R 1: ☐☐☐ l/m; PEFR 2: ☐☐☐ l/m; PEFR 3: ☐☐☐ l/m;

) PEFR pred — 100 > PEFR max. — — > > PEFR post br. dil: ☐☐☐ l/m

PEFR pred — 85 > PEFR max. — — > > PEFR post br. dil: ☐☐☐ l/m