



POTENTIALLY DETRIMENTAL LIFESTYLE BEHAVIOUR & COMPLICATIONS TO INFANT HEALTH IN POLISH WOMEN BEFORE & DURING PREGNANCY

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Background & Aims

- **The seriously adverse impact of smoking, drinking alcohol and substance abuse during pregnancy on the health of the foetus and mother is not only very well recognised (medically) but should really be self evident. Such behaviours are frequently linked.**
- **In Poland this situation was assessed by analysing the effects during pregnancy of smoking and passive smoking in conjunction with drinking, using marihuana and taking sleeping pills in postpartum women and offspring.**
- **This is in keeping with the terms of the ‘Warsaw Declaration’ to remove health disparities by identifying suitable targets for action.**



Warsaw Declaration

The Polish Minister of Health, (Ms. Eva Kopacz) has twice presided over international scientific conferences on health disparity reduction between countries of Central, E and SE Europe with W Europe; arising from the initiative of International Agency for Research on Cancer (IARC). Two meetings of Health Ministers were held in Warsaw on this issue, (Nov '07 & Jan '09), aimed at negotiating an international agreement between countries concerned and the EC in order to obtain funds for developing a program to close the gap between Eastern & Western Europe.

The Declaration signed by the Ministers of Health of 12 former eastern block countries, (26.11.2007) aims to;

- Increase of knowledge about the risk factors for premature death and, in particular, chronic diseases (cancer, cardiovascular disease, diabetes) in Countries of Central and Eastern Europe**
- Development of a system to monitor changes in biomarkers of health and health determinants**
- Undertaking capacity building in many areas of health science in many parts of Europe.**



Study design & Statistics

- Throughout Poland, 3,380 post-partum women from 840 hospitals were surveyed from obstetrics and gynaecology wards representative of the country's 16 administrative areas.
- Questionnaires were completed during one single 24 hr period and were treated strictly anonymously. The first one was based on the Pregnancy Risk Assessment Monitoring System (PRAMS) as recommended by the CDC (Centres for Disease Control and Prevention).
- An additional questionnaire was completed by doctors including clinical data from the pregnancy and birth record charts on the following: previous pregnancies and/or miscarriages, infant weight, length, sex, birth week, APGAR rating, multiple pregnancy, natural/Caesarian section, congenital problems and complications.
- Data were analysed statistically using the STATISTICA Statsoft system by cross tabulation, (contingency tables), using the chi-squared test of significance ($P < 0.05$) and the strength of any association was assessed by Cramer's V.



POLAND

AREA

312 685 km²

POPULATION (2009)

38.5 mln citizens

ADMINISTRATIVE STRUCTURE

16 voivodships (provinces)

315 powiats (counties)





Overall results for women smoking and pregnancy (in summary)

- Over half women studied smoked sometime in life 50.4%, (n=1653)
- Of which 62% did so in the last 2 years, (n=1024) & out of these 60% (n=615) smoked daily.
- Cigarette consumption in the group smoking for the last 2 years was;

Cigarette packets smoked/month	Nos. women smokers % (n)
> 20	18% (184)
13 - 20	23% (236)
5 - 12	21% (215)
2 - 4	15% (154)
1	24% (246)



Overall results for women drinking alcohol and pregnancy (summary)

- Every second woman studied claimed that within the last year they drank alcoholic drinks. About 22% of women that consumed alcohol in the last year claimed that they drank more than 20g of pure alcohol at one time.

Alcohol consumption frequency	Nos. women	(%)
Never	1634	50.9
1/month	1265	39.4
2-4/month	265	8.3
2-3/week	44	1.4
>3/week	4	0.12

Amounts of alcohol (g) consumed in last year	Nos. women	(%)
1 - 20	1230	74.7
21 - 40	364	22.1
> 41	53	3.2

- If one takes into account the frequency of drinking; 3 beers (0.5l), 600ml wine or 180ml vodka during the year before birth then around 9% of women declared that they did this less than once a month, whereas 4% said they drank more.
- Around 15% of women admitted to drinking alcohol during the actual pregnancy.



Overall results for women taking drugs and pregnancy (summary)

Nos. of times drugs ever taken in life		
	Nos. women	(%)
0	1518	92.00
1-2	78	4.73
3-5	22	1.33
6-9	10	0.61
10-19	9	0.55
20-39	5	0.30
>40	8	0.48

Drug type n=152		
	Nos.	(%)
Marihuana	117	76.97
LSD	4	2.63
Amphetamines	22	14.47
Ecstasy	5	3.29
Mushrooms	9	5.92
Cocaine	7	4.61
Heroin	4	2.63
Inhaled drugs	6	3.95
Others	9	5.92

Nos. of times drugs that were taken in the last 12 months (when question was answered);

0 = 1296 women, 1-2 = 10 women and 3-5 = 1 woman



Overall results for the pregnancy & births (summary)

- Pregnancy was most commonly confirmed after 5-6 weeks (31%, n=1017) and 7-8 weeks (27%, n=886).
- The proportion of women giving birth prematurely was 13% (n=426) from which 19% of women miscarried previously.
- 92% (n= 3018) births were however normal.
- 84% (n=2755) births had normal weight, 10% (n=328) higher than normal and 6% (n=197) were under.
- 87.5% (n=2870) had a healthy AGPAR rating whereas 12.5% (n=410) were poor.

- Details on which the pregnancies were;

Which pregnancy	Nos. women	(%)
1st	1601	48.8
2nd	1097	33.43
3rd	383	11.68
> 3rd	200	6.09



Continued; overall results for the pregnancy & births (summary)

- Multiple births occurred in 3% (n=98) women.
- Every third birth was by Caesarian section.
- Inborn errors confirmed in <2% births as follows;

Birth defect	Nos. women	(%)
Lower limbs	6	12.77
Respiratory system	2	4.26
Nervous system	8	17.02
Urinary system	8	17.02
Heart/circulation	10	21.28
Cleft lip/palate	6	12.77
Others	7	14.89

- The number of boys born were only marginally, (insignificantly), a little higher, (by 6%), than that of girls.
- Complications at birth however occurred in 15% of women.



Effects of maternal smoking on complications in pregnancy

- Women (8.1%, 50/615) smoking for the last 2 years but not daily had lower birth-weight newborns than normal compared to women smoking daily (5.24%, 54/1024). (Cramers V = 0.1)

Smoking since 2 years	Newborn weight		
	Below normal	Normal	Above normal
daily	8.1%	85%	6.91%
< daily	5.24%	82.5%	12.22%

Smoking since 2 years	AGPAR rating	
	Below normal	Healthy
daily	15.73%	84.27%
< daily	11.0%	89.0%

- This group of women also had infant APGAR ratings (16%) below a healthy level compared those smoking daily. (Cramers V = 0.07)



Effect of maternal smoking on complications in pregnancy and smoking marihuana behaviour

- Women with birth complications had higher awareness on the harm caused by passive smoking as shown below. (Cramers V = 0.05)

Whether complications occurred	Awareness of passive smoking	
	No	Yes
No	8,45%	91,55%
Yes	4,93%	95,07%

- Women smoking marihuana was highest when;
 - > pregnancy was confirmed early (1-4 weeks) 5-6% as opposed to later confirmations (>7 weeks at <2.5%); Cramers V = 0.06
 - > and in women with their first pregnancy (5-6%) as opposed to subsequent ones (1-3%); Cramers V = 0.07



Effects of sleeping/anti-anxiolytic medication on complications in pregnancy

- Women medically procribed sleeping pills/anti-anziolytics demonstrated that birth by Caesarian section is more common (42.7%) than non-proscribed use (32.4%).

Proscribed drugs	Birth delivery	
	natural	ceasarian
No	67.61%	32.39%
Yes	57.28%	42.72%

Cramers V = 0.06

- Complications were highest in those mothers (26%) who had ever taken anti-anxiolytics or sleeping pills compared to those who hadn't (14%).

Ever taken proscribed drugs	Occurence of complications	
	No	Yes
No	85.69%	14.31%
Yes	74.32%	25.68%

Cramers V = 0.1



Smoking behaviour links during pregnancy to taking sleeping pills and drinking alcohol

- The highest occurrence of women taking sleeping pills were for those continuing to smoke (17%) compared to those that never smoked (8%)

Smoking behaviour	Sleeping pill use	
	No	Yes
Smoking continued	83,11%	16,89%
Ceased during pregnancy	87,22%	12,78%
Ceased before pregnancy	89,19%	10,81%
Never smoked	91,70%	8,30%

Cramers V = 0.08

- During the year before giving birth 92% of women non-smokers and 82% of of women who ever smoked never drank alcohol.

Smoking behaviour	Alcohol drunk in year before birth		
	Never	1 month or less	More than once/month
No	91,53%	6,52%	1,95%
Yes	82,15%	11,52%	6,33%

Cramers V = 0.15



Conclusions

- **To improve quality of life and decrease the public health burden, problem areas in lifestyle during and before pregnancy have been confirmed & identified in Poland.**
- **The benefits of the Warsaw declaration can thus begin to draw EU resources to the target areas.**
- **An educational campaign will be formulated for women & young girls together with training for clinical/healthcare staff to not only raise awareness but encourage and monitor healthy behaviour tailored to the individual.**
- **Further studies planned to assess impact of the educational campaign planned for the future.**