



# **AN EPIDEMIOLOGICAL SURVEY TO IDENTIFY AT RISK GROUPS OF POLISH WOMEN WHO SMOKED BEFORE AND DURING PREGNANCY IN 2009**

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## Background & Aims

- **Smoking during pregnancy has of course been recognised, (medically and by the general public), for many years to cause major health problems to both mother and foetus.**
- **This study aims to identify smoking behaviour in Poland carrying the highest risk in order to provide a suitable focus for remedial action through raising the women's awareness and offering support & encouragement.**
- **This is in keeping with the terms of the 'Warsaw Declaration' to remove health disparities by identifying suitable targets for action undertaken by the Chief Sanitary Inspectorate.**



# 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 km<sup>2</sup>

## 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;

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



## Confirmation time of pregnancy and subsequent smoking behaviour (1)

Women smokers (41%, n=668) did not limit smoking when pregnancy was confirmed late (>10 weeks) compared to confirmation at 1-4 weeks (19%, n=310)  
(Cramers V = 0.16)

After what time was pregnancy confirmed (weeks)	Whether smoking was reduced		
	Unchanged	Reduced during pregnancy	Reduced before pregnancy
1-4	18.99%	12.66%	68.35%
5-6	21.19%	23.18%	55.63%
7-8	29.73%	24.32%	45.95%
9-10	32.81%	25.00%	42.19%
> 10	40.83%	22.5%	36.67%



## Confirmation time of pregnancy and subsequent smoking behaviour (2)

Women whose pregnancy was confirmed >10 weeks showed the least awareness of the harm caused by smoking during pregnancy (93%).

(Cramers  $V = 0.09$ )

After what time was pregnancy confirmed (weeks)	Awareness of smoking harm	
	No	Yes
1-4	2.58%	97.42%
5-6	2.9%	97.1%
7-8	2.21%	97.79%
9-10	2.82%	97.18%
> 10	7.25%	92.75%





## Smoking behaviour related to which pregnancy (1)

The smallest number of women smoking were observed for their first pregnancy (56%) compared to subsequent ones (62-79%).

(Cramers V = 0.11)

Which Pregnancy	Frequency of smoking for last 2 years	
	Daily	< Daily
1st	56.25%	43.75%
2nd	61.81%	38.19%
3rd	60.19%	39.81%
> 3rd	78.79%	21.21%



## Smoking behaviour related to which pregnancy (2)

The 1st pregnancy group also showed the greatest tendency to limit their smoking during pregnancy (28%) compared to the others at 14-16%.

(Cramers  $V = 0.15$ )

Which Pregnancy	Smoking reduced when		
	Unchanged	Reduced during pregnancy	Reduced before pregnancy
1st	22.71%	27.84%	49.45%
2nd	33.15%	16,02%	50.83%
3rd	31.34%	17.91%	50.75%
> 3rd	54.76%	14.29%	30.95%



## Women's smoking behaviour/smoking exposure at home (1)

Women smoking daily and/or exposed to passive smoking at home more frequently admitted to continuing smoking during pregnancy (14%) than those not smoking daily (<5%). (Cramers V=0.25)

Smoking exposure at home	Ceased smoking from			
	Still smokes	Ceased during pregnancy	Ceased before pregnancy	Never smoked
Daily	13.84%	21.43%	29.46%	35.27%
< Daily	4.49%	16.88%	32.48%	46.15%
None	1.36%	6.46%	29.58%	62.6%



## Women's smoking behaviour/smoking exposure at home (2)

Same group of women more frequently tried cessation (48%) compared to (25%) where nobody smoked at home.

(Cramers  $V = 0.23$ )

Smoking exposure at home	Ceased smoking in last 2 years	
	No	Yes
Daily	51.68%	48.32%
< Daily	66.42%	33.58%
None	75.86%	24.14%



## Women's smoking behaviour/smoking exposure at home (3)

In homes where nobody else has smoked for the last year, there are more women smokers who try to limit their smoking before and during pregnancy (88% ie. 15.18 + 72.77)

(Cramers V = 0.26)

Smoking exposure at home	Smoking reduced when		
	Unchanged	Reduced during pregnancy	Reduced before pregnancy
Daily	41.75%	24.58%	33.67%
< Daily	25.93%	29.63%	44.44%
None	12.04%	15.18%	72.77%



## Women's relative awareness of the harm in smoking & passive smoke

7% of women smokers that are aware of smoking being harmful claim they are unaware of the harm caused by passive smoking whereas 39% of women smokers who are unaware of the harm resulting from smoking are actually aware that passive smoking is harmful.

(Cramers  $V = 0.21$ )

Awareness of smoking harm	Awareness of passive smoking harm	
	No	Yes
No	39.22%	60.78%
Yes	6.75%	93.25%



## Conclusions

- **Earlier confirmation of pregnancy suggests that women are planning for a baby more and are being more responsible in halting this behaviour**
- **Women with successful first and then subsequent pregnancies perhaps tend not to be convinced that smoking is that harmful –at least in the short term.**
- **Some unexpected results seen with relative awareness of the harm caused by smoking & passive smoking.**
- **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.**
- **The benefits of the Warsaw declaration can thus begin to draw EU resources to the target areas.**