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PERINATAL OUTCOME AT MATERNAL AGE 40 YEARS AND OLDER- CASE-CONTROL ANALYSIS IN SOUTHERN HUNGARY



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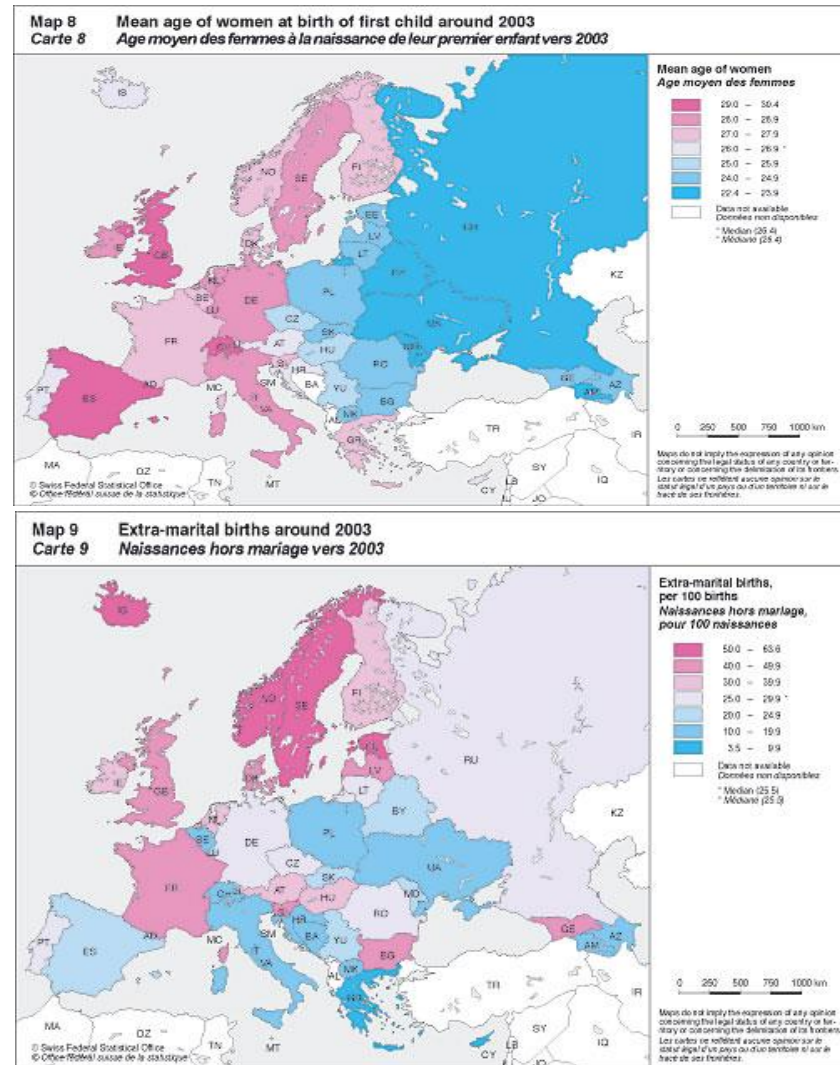
FAMILY AND HOUSEHOLD CHANGE

Later childbearing

- Particularly in north and west - UK and Spain oldest mothers (29+)

Extra marital births

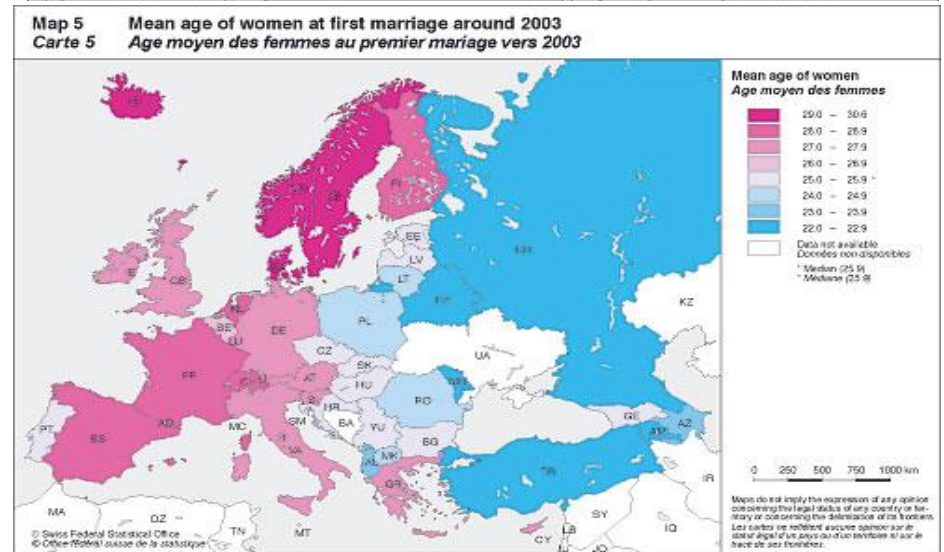
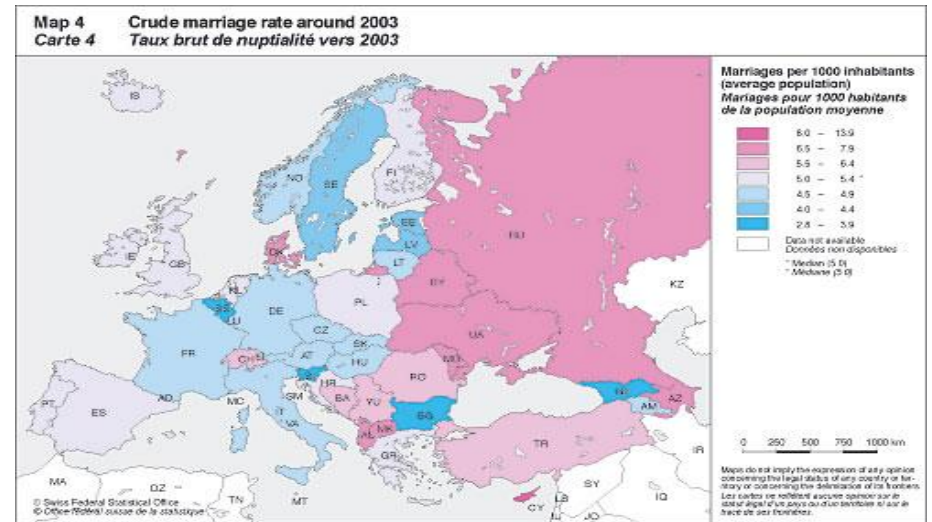
- 1970 very low (8% UK)
- 1990 15% Europe;
- 2004 Sweden, UK, France 28 -40 %



Reproduced from European Population Committee of the Council of Europe (2005) *Recent demographic developments in Europe 2005*.
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Changing families

- **Declining marriage rate:**
low rates in Europe; decline in central/eastern Europe from 1990
- **Later marriage** - 28 and older, but east - west contrasts
- Rising divorce rates from 1970 in northern Europe
- North - south contrast - function of law and social attitudes



„CAREER MODELS”



How old is too old?

CHILDBEARING

EARLY
 ≤ 20 YEARS



"IDEAL"
20-30 YEARS

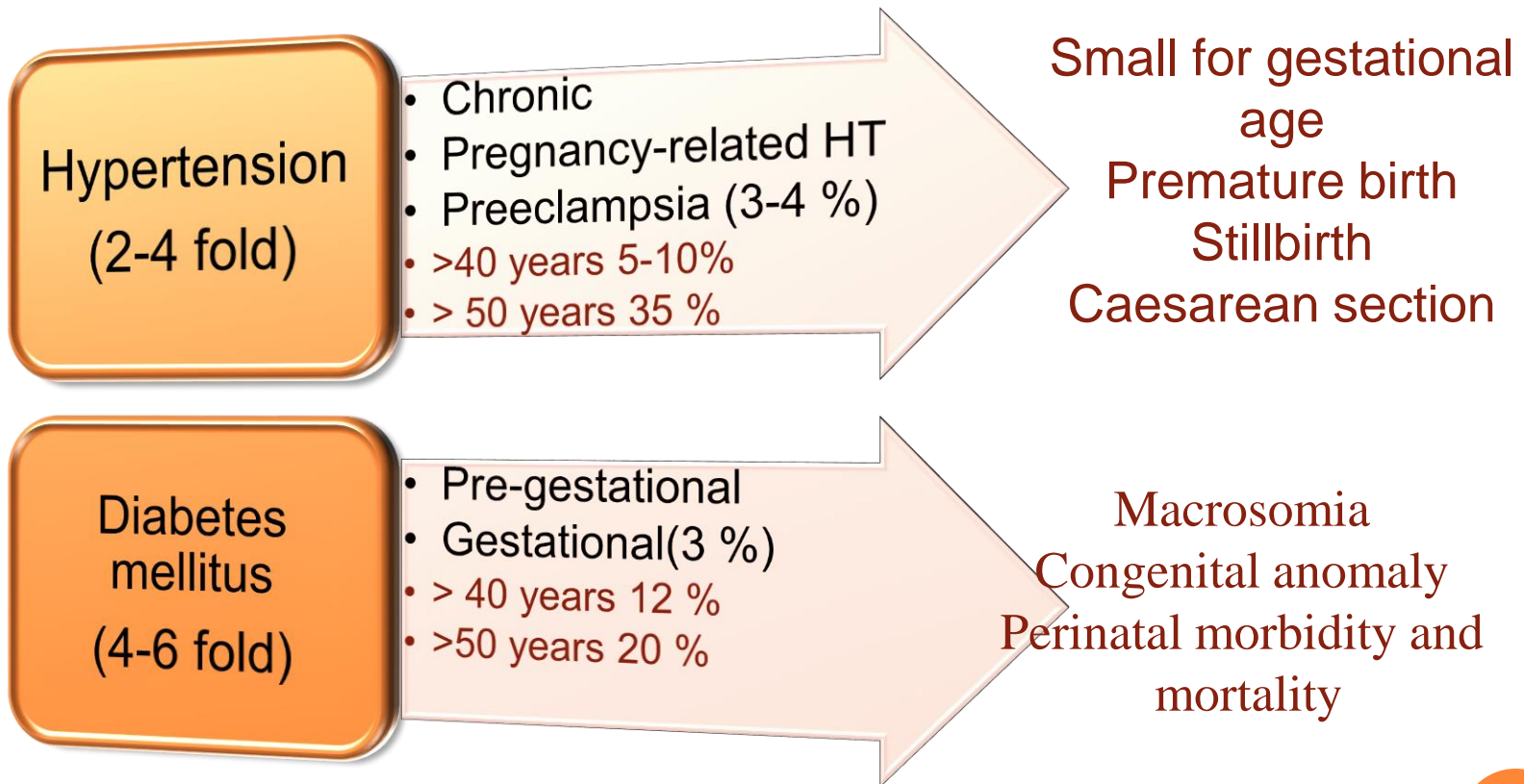


LATE
 ≥ 35 YEARS
1959 FIGO



ADRIANA ILIESCU
(66 years old)

MORBIDITY DURING PREGNANCY AMONG OLDER THAN 40 YEARS WOMEN I.



MORBIDITY DURING PREGNANCY AMONG OLDER THAN 40 YEARS WOMEN II.

Estimated risk for trisomies in relation to maternal age at birth

Age of mother	Risk of Down syndrome	Risk of trisomy 18	Risk of trisomy 13
20 years	1:1530	1:18 013	1:42 423
30 years	1:900	1:10 554	1:24 856
35 years	1:360	1:4202	1:9876
40 years	1:100	1:1139	1:3544
42 years	1:55	1:644	1:1516
44 years	1:30	No recent data	No recent data

Data supplied by the Fetal Medicine Foundation.

○ During pregnancy:

- Extrauterine pregnancy:
 - 4-8 fold higher
- Chromosomal abnormality
- Intrauterine death
- Small for gestational age (SGA)
- Premature birth
- Post-term birth

MORBIDITY DURING PREGNANCY AMONG OLDER THAN 40 YEARS WOMEN III.

○ During childbearing:

- Placenta praevia
- Abruption placentae
- Atonia
- Caesarean section
- >40 years 60-70 %
- >50 years 80-100%

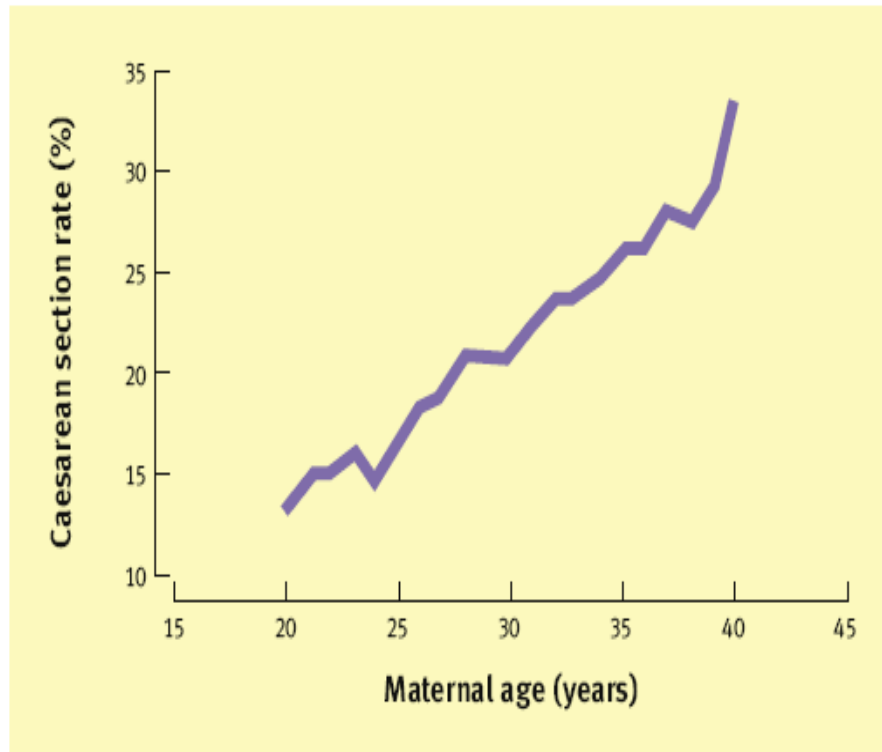


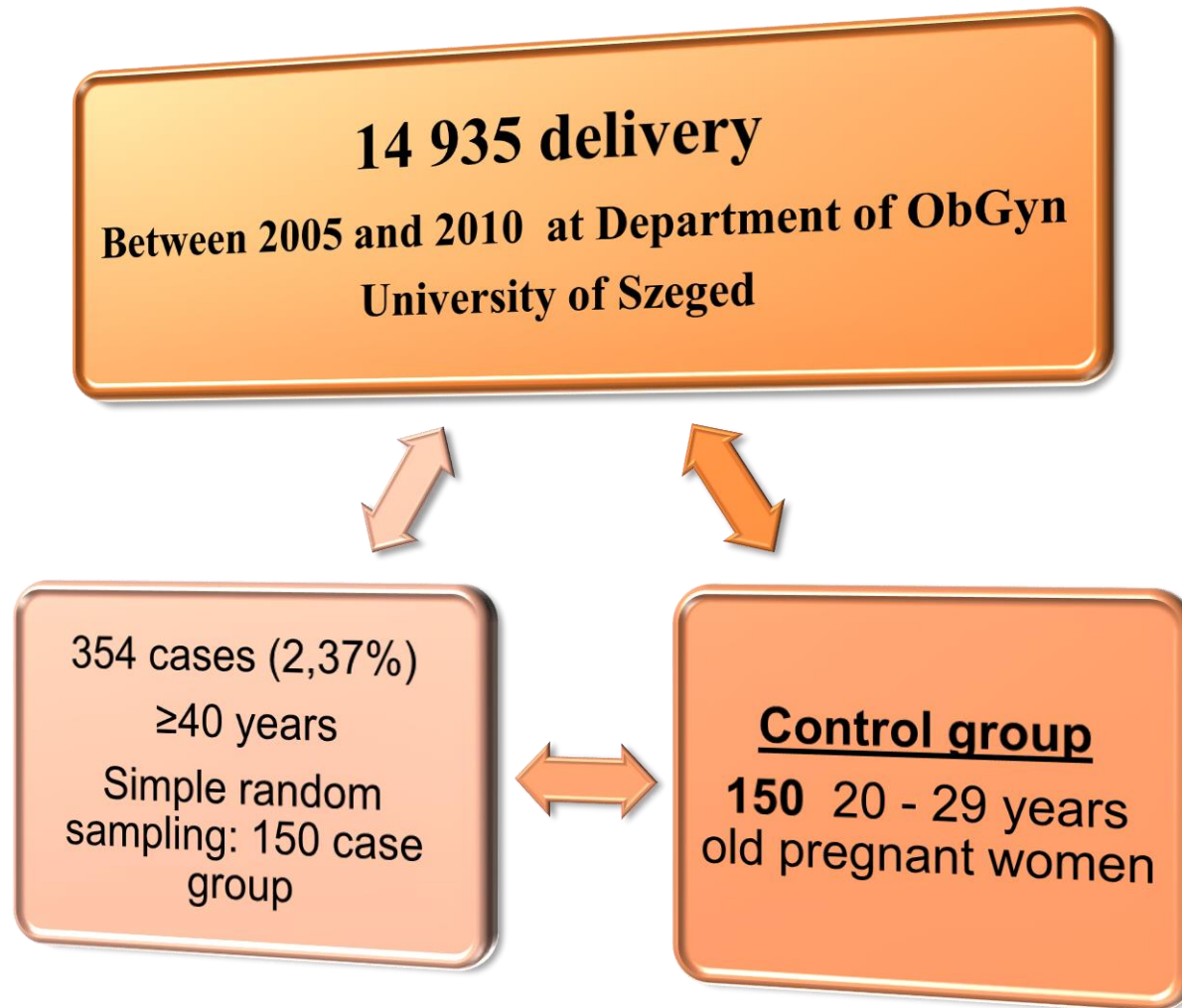
Figure 4 Caesarean section rate by maternal age. Reproduced by kind permission from the RCOG Sentinel Audit 2001.

OBJECTIVE

- To evaluate the pregnancy and neonatal outcome in mothers aged of 40 years or older in South Hungary
- To compared the complications and pregnancy outcomes of women aged 40 years and above with women aged 20 to 29 years.



PATIENTS AND METHODS I.



PATIENTS AND METHODS II.

Maternal morbidity

- Preeclampsia, gestational DM

Circumstances of delivery

- Vaginal delivery, Caeserean section

Neonatal parameters

- Premature birth <37. weeks
 - Low birth weight <2500 g
 - Macrosomia >4500 g
- Intrauterine growth restriction
 - Percentil <10
- 5 minutes Apgar score < 7
- Umbilical cord blood pH <7,2

COMPARISON OF MATERNAL COMPLICATIONS AND PREGNANCY OUTCOMES BETWEEN OLDER AND YOUNGER AGE GROUP

	≥40 years		20-29 years			Odds-ratio
	(n=150)		(n=150)		p	95 % CI
	n	%	n	%		
Gestational age (mean±SD) (weeks)	37,11±3,27		38,23±2,4			
Average birth weight (mean±SD) (g)	3067,93±790,88		3226±587,8		0,004*	
Assisted reproductive techniques (ART)	9	6	1	0,67	0,049*	4,33 (0,67-27,92)
No or inadequate prenatal care	4	2,6	5	3,3	N.S.	0,75 (0,41-1,36)
Gestational diabetes mellitus	18	12	11	7,3	N.S.	1,12 (0,69-1,8)
Preeclampsia	9	6	6	4	N.S.	1,05 (0,56-1,98)
Caeserean section	102	68	55	36,6	0,001*	1,356 (1,05-1,76)

COMPARISON OF NEONATAL COMPLICATIONS BETWEEN WOMEN AGED 40 YEARS AND OLDER AND THOSE AGED 20-29 YEARS

	≥40 years		20-29 years			Odds-ratio
	(n=150)		(n=150)		p	95 % CI
	n	%	n	%		
Premature birth	48	32	22	14,67	N.S.	1,41 (0,98-2,04)
Low birth weight	32	21,3	7	4,67	0,001*	2,5 (1,26-4,94)
Small for gestational age	11	7,33	1	0,67	0,017*	5,18 (0,8-33,98)
Macrosomia	13	8,67	12	8	N.S.	0,86 (0,56-1,33)
Admitted to Intensive Care Unit	31	20,67	19	12,67	N.S.	1,129 (0,78-1,65)
5 minute Apgar score <7	24	16	8	5,3	0,041*	1,75 (0,95-3,24)
Umbilical cord blood pH<7,2	33	22	30	20	N.S.	0,85 (0,64-1,15)
Congenital anomaly	2	1,3	0	0	N.S.	0,56 (0,52-0,62)

ADVANCED MATERNAL AGE (>40 YEARS) IN THE LITERATURE

Authors (case-control studies)	Conclusion
Carolan et al. 2003	Obstetric risk increased in older women
Smit Y et al. 1997	No significant differences in the obstetric outcomes between younger (20-30 year) and older (≥ 40 year) mothers
Diejomaoh et al .2006	No significant differences in the maternal,perinatal outcomes between younger (20-30 year) and older (≥ 40 year) mothers
Kirchengast S et al. 2003 Ziadeh S et al. 2001	Birth weights and gestational age decreased in older (≥ 40 year)women

CONCLUSIONS

- ❖ This study showed that the frequencies of C-section and induced pregnancy with ART ($p < 0,05$) were 4-fold higher among mothers aged 40 years.
- ❖ Higher risk of C-section possibly due to the cervix-distocia and the higher incidence of ART treatment
- ❖ Prevalence of low birth weight and small for gestational age (SGA) were 2.5 fold and 5 fold higher than the control group.
- ❖ The incidence of maternal complications such as preeclampsia and gestational diabetes were higher in older group, but not statistically significant contrast with the international data.

THANK YOU FOR YOUR KIND ATTENTION!



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