

VHPB meeting 2003

**Prevention of viral hepatitis in Germany and Scandinavia:
lessons learnt and the way forward**

Berlin, October 13-14

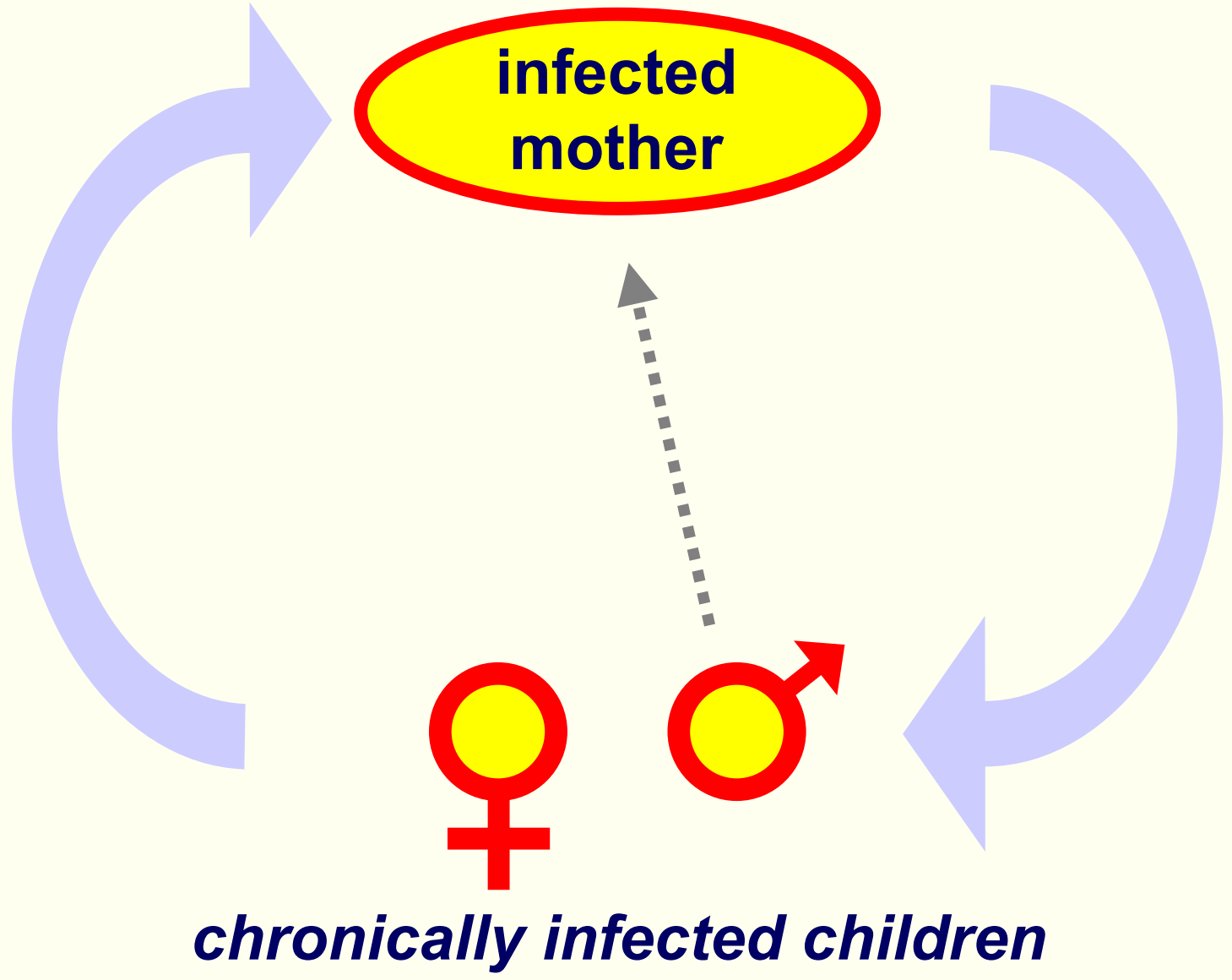
Screening-pregnant-women programme for hepatitis B: results from two studies

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mother-infant-transmission of hepatitis B

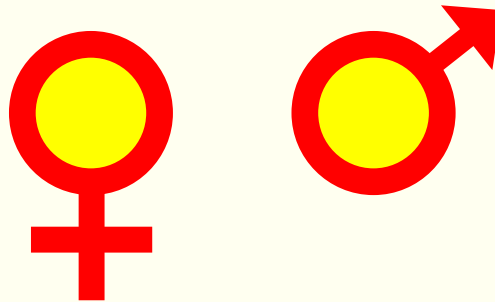


chronically infected children

mother-infant-transmission of hepatitis B

the infected newborn has a 25% life-time risk of primary hepatocellular carcinoma or cirrhosis

Beasley and Huang, in Viral hepatitis and Liver Disease, New York 1984



chronically infected children

Perinatal transmission of hepatitis B

frequency of HBsAg pos. pregnant women in Germany

city	year	n	HBsAg pos (%)
Hannover	1980-81	5 874	0.95
Bielefeld	1981-85	15 957	1.10
Greifswald	1983	1 401	0.57
Rostock	1987-88	3 791	0.89
Hannover	1996	912	1.40

Perinatal transmission of hepatitis B

estimated risk of infection for newborns in Germany

HBsAg pos. pregnant women	risk of transmission	newborns at risk
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total	7 000	
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HBsAg+	1 050	
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85%

893

anti-HBs+	5 950	
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6%

357

total 1 250

calculated according to figures from Stück and Jilg, D Gelben Hefte 1996; 36: 106-113; Knöll et al, J Med Virol 1999; 59:14-18

German regulations for screening of pregnant women 1984

- **Testing for HBsAg has to be performed on all pregnant women belonging to certain risk groups**
- **Testing should be performed after the 32nd week of pregnancy as close to the time of delivery as possible**

individuals considered at risk for hepatitis B infection

- **health care workers**
- **people from endemic countries**
- **contacts of carriers**
- **recipients of blood products**
- **patients of institutions for mentally disabled**
- **hemodialysis patients**
- **heterosexuals with multiple sex partners**
- **parenteral drug users**
- **prison inmates**

Effectiveness of risk group screening

912 pregnant women tested

13 HBsAg positive

9 women from endemic countries

3 German women

1 Greek woman

} *no risk factor established*

→ 30% of women would not have been tested!

Effectiveness of risk group screening

Using high risk screening criteria can miss a substantial proportion of HBsAg positive women.

All pregnant women should be routinely tested for HBsAg

German regulations for screening of pregnant women - *revised 1994*

- **Testing for HBsAg has to be performed *on all pregnant women***
- **Testing should be performed after the 32nd week of pregnancy as close to the time of delivery as possible**

Effectiveness of universal maternal screening in Germany

two surveys performed:

- retrospective analysis in Berlin with ~ 4 000 participants (Parasher et al 2001)**
- prospective study in Bavaria with ~ 6 000 participants (Dausch and Jilg 2001)**

Effectiveness of universal maternal screening in Germany – retrospective analysis

participants: 3963 women who delivered between 1996 and 1998 in the department of gynaecology and obstetrics of the FU Berlin

charts of the mother and her infant were reviewed for documentation of maternal HBsAg screening

Effectiveness of universal maternal screening in Germany – retrospective analysis

participants	n	HBsAg test documented n (%)	not tested/result not available %
German	2 988	2 153 (72.1)	27.9
non-German	975	663 (68.0)	32.0
all	3 963	2 816 (71.1)	28.9
after week 32	3 589	2 888 (80.5)	19.5

Parasher et al Dt Ärztebl 2001; 98: A 329-331

Effectiveness of universal maternal screening in Germany – retrospective analysis

HBsAg test result at delivery	n	HBsAg test positive n (%)	
available	2 815	33 (1.17)	8 German 22 non-German
not available, tested after delivery	1 148	12 (1.05)	3 German 9 non-German

Effectiveness of universal maternal screening in Germany – retrospective analysis

Summary

- **HBsAg tests were not performed or not available *in 19.5% of women* who delivered after week 32**
- **Tests for Rubella antibody were missing in only 5.2%**
- **HBsAg carrier rate in the tested women was similar as in those not tested before delivery (1.17% vs. 1.05%)**

Effectiveness of universal maternal screening in Germany – prospective analysis

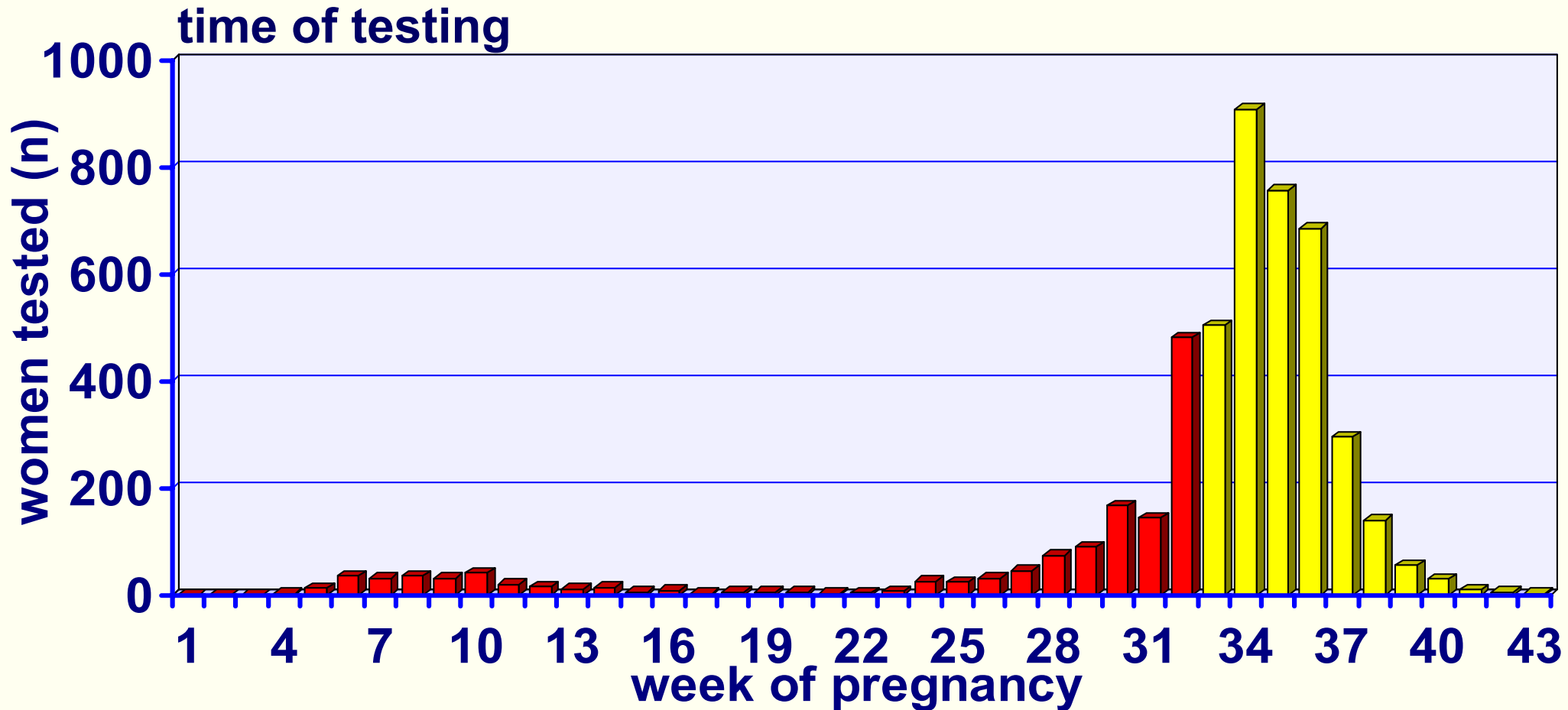
participants: 6083 women who delivered between July 1997 and Dec 1998 in the obstetric wards of 11 clinics in Bavaria

pregnancy documents of the women entering the obstetric wards were examined to check whether, when and with which result HBsAg-screening had been performed.

Effectiveness of universal maternal screening in Germany – prospective analysis

clinic	n	HBsAg test available n (%)	not tested/result not available %
Amberg	343	312 (91.0)	9.0
Bamberg	921	435 (47.2)	52.8
Deggendorf	1039	939 (90.4)	9.6
Landshut	552	550 (99.6)	0.4
Munich LMU	878	577 (65.7)	34.3
Munich TU	430	337 (78.4)	21.6
Regensburg St.Hedwig	312	206 (66.0)	34.0
Regensburg St. Josef	221	172 (77.8)	22.2
Schweinfurt	490	404 (82.4)	17.6
Straubing	647	639 (98.8)	1.2
Weiden	250	236 (94.4)	5.6
all	6083	4807 (79.0)	21.0

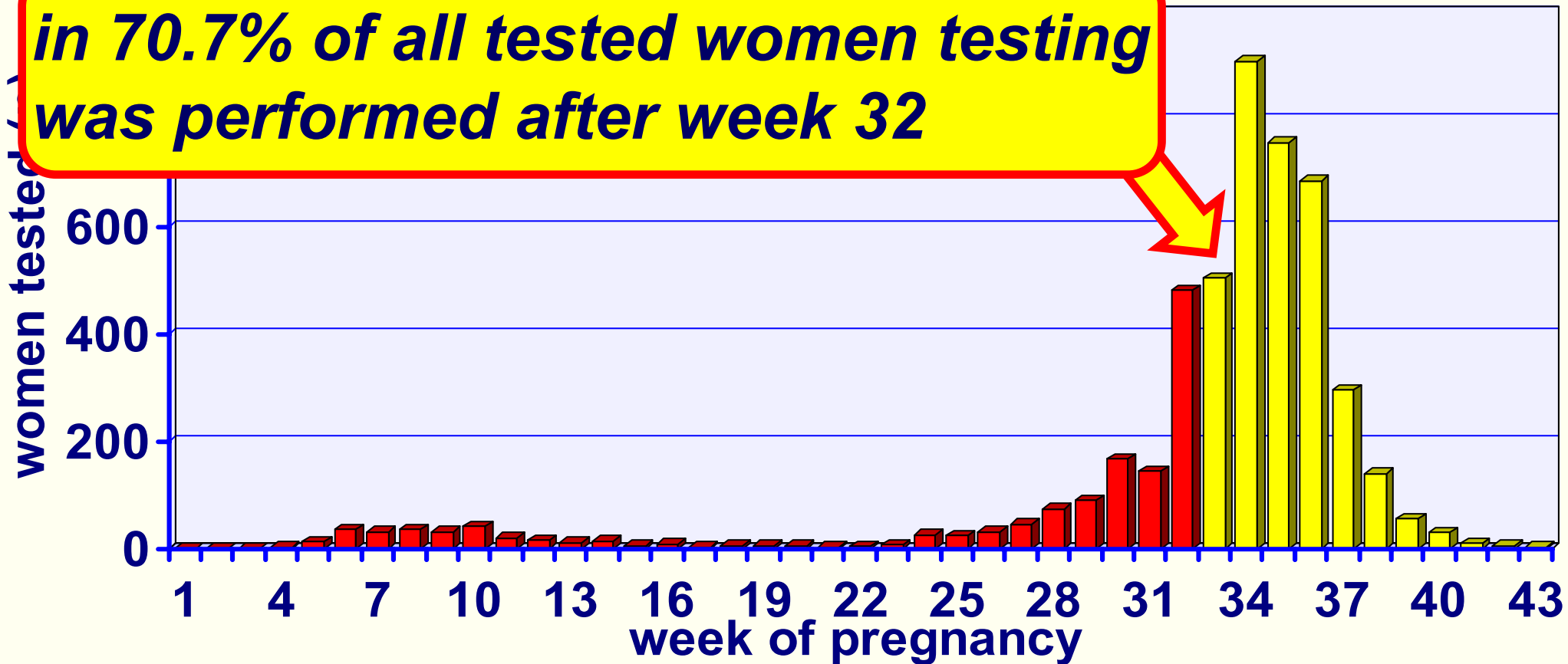
Effectiveness of universal maternal screening in Germany – prospective analysis



Dausch and Jilg Geburtsh Frauenheilk 2001; 61: 676-681

Effectiveness of universal maternal screening in Germany – prospective analysis

in 70.7% of all tested women testing was performed after week 32



Effectiveness of universal maternal screening in Germany – prospective analysis

HBsAg carriers

- **test results available for 4 744 of tested women**
 - ➔ **42 (0.89%) HBsAg positiv**
 - 12 German, 13 non-German, 13 origin unknown
 - 12 German carriers: 2 drug addicts, 1 medical profession
- **at LMU Munich all women not tested before delivery were tested thereafter**
 - 577 tested before delivery: 12 (2.1%) HBsAg pos.
 - 301 tested after delivery: 4 (1.3%) HBsAg pos.

Effectiveness of universal maternal screening in Germany – summary

- **about 20 % of pregnant women are not tested for HBsAg before delivery**
- **about 1% of pregnant women are HBsAg positive**
- **according to these data, *about 1400 HBsAg pos. pregnant women are not identified, giving birth to about 250 infected newborns, of whom 225 will become chronic carriers***

