

IN EARLY PREGNANCY HOME BLOOD PRESSURE IS MORE THAN FIVE MMHG LOWER THAN ROUTINELY MEASURED OFFICE BLOOD PRESSURE IN WOMEN WITH PREEXISTING DIABETES AND IN HEALTHY WOMEN



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Background, Aim & Methods

BACKGROUND

Hypertensive disorders in pregnancy with preexisting diabetes is common with a reported prevalence up to 40% in some populations. To eliminate the white-coat effect and to avoid excessive anti-hypertensive treatment, home blood pressure (BP) measuring can be used in pregnancy.

AIM

To determine the association between home BP and office BP in early pregnancy in women with preexisting diabetes in comparison with healthy women.

METHODS

Ninety-nine women with preexisting diabetes and 65 healthy women measured home BP for three days with three measurements both in the morning and in the evening with an automatic device (Microlife BP 3A Plus). Home BP was similar on the first and the following days of measurement in women with diabetes and in healthy women ($p=0.53$ and $p=0.94$), and therefore a mean of all 18 measurements was used. Office BP was routinely measured once after five minutes resting, and if values were $140/90$ mmHg further measurements were done. White-coat hypertension was defined as office sys. BP ≥ 140 mmHg and/or office dia. ≥ 90 mmHg and home sys. BP ≤ 135 mmHg and/or home dia. BP ≤ 85 mmHg.

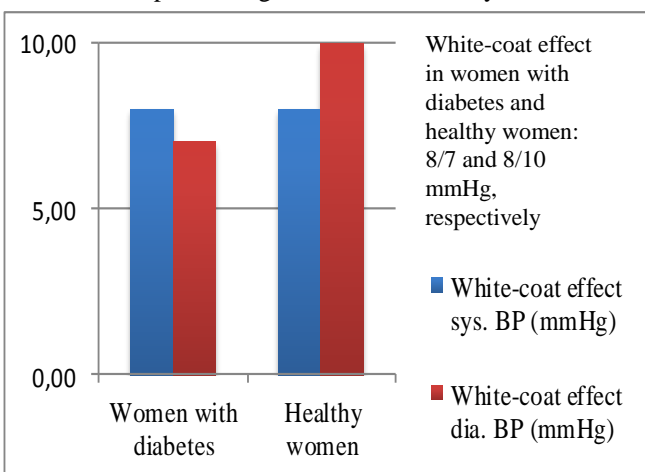
Results

Table 1: Baseline characteristics of pregnant women with preexisting diabetes and healthy pregnant women

	Women with diabetes (n=99)	Healthy women (n=65)	p value
Gestational age (days)	71 (42-134)	90 (77-130)	<0.001
Age (years)	31 (23-48)	31 (20-40)	0.73
Body mass index (kg/m ²)	27 (17-47)	21 (17-28)	<0.001
Anti-hypertensive treatment (n)	4 (4%)	0 (0%)	0.25
Office sys. BP (mmHg)	119 (\pm 12)	109 (\pm 12)	0.08
Office dia. BP (mmHg)	76 (\pm 8)	73 (\pm 7)	0.71
Home sys. BP (mmHg)	111 (\pm 9)	101 (\pm 5)	0.04
Home dia. BP (mmHg)	69 (\pm 7)	64 (\pm 5)	0.25

Results are given as median (range), mean (\pm SD) or numbers (%)

Figure 1: White-coat effect in early pregnancy in women with preexisting diabetes and healthy women



The white-coat effect was calculated as the difference between office BP and home BP.

Among eight women with diabetes and office BP $\geq 140/90$ mmHg (either systolic or diastolic above the target) seven (88%) had home BP $\leq 135/85$ mmHg (both systolic and diastolic below the target) and thus white coat hypertension.

None of the healthy women had office BP $\geq 140/90$ mmHg.

Upper normal level of home BP (mean +2SD) was 111/74 mmHg

Conclusion

In early pregnancy both women with diabetes and healthy women has a white-coat effect exceeding five mmHg. The upper normal limit of home-BP was 111/74 mmHg.