

**Women's understanding
of ideal inter-pregnancy
spacing: post partum
advice given,
contraceptive used and
notions of ideal timing**

International Federation of Professional
Abortion and Contraception Associates
(FIAPAC)

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THE UNIVERSITY OF
SYDNEY



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Definition:



Inter-pregnancy interval is defined as the time from the end of one pregnancy, to conception of the next.



World Health
Organization

The World Health Organization recommends an interval of at least 18 months after a live birth before attempting a subsequent pregnancy to avoid adverse pregnancy outcomes

World Health Organization. Report of a WHO technical consultation on birth spacing. WHO, Geneva, Switzerland (2005)

Why is it important?



From: Birth Spacing and Risk of Adverse Perinatal Outcomes: A Meta-analysis

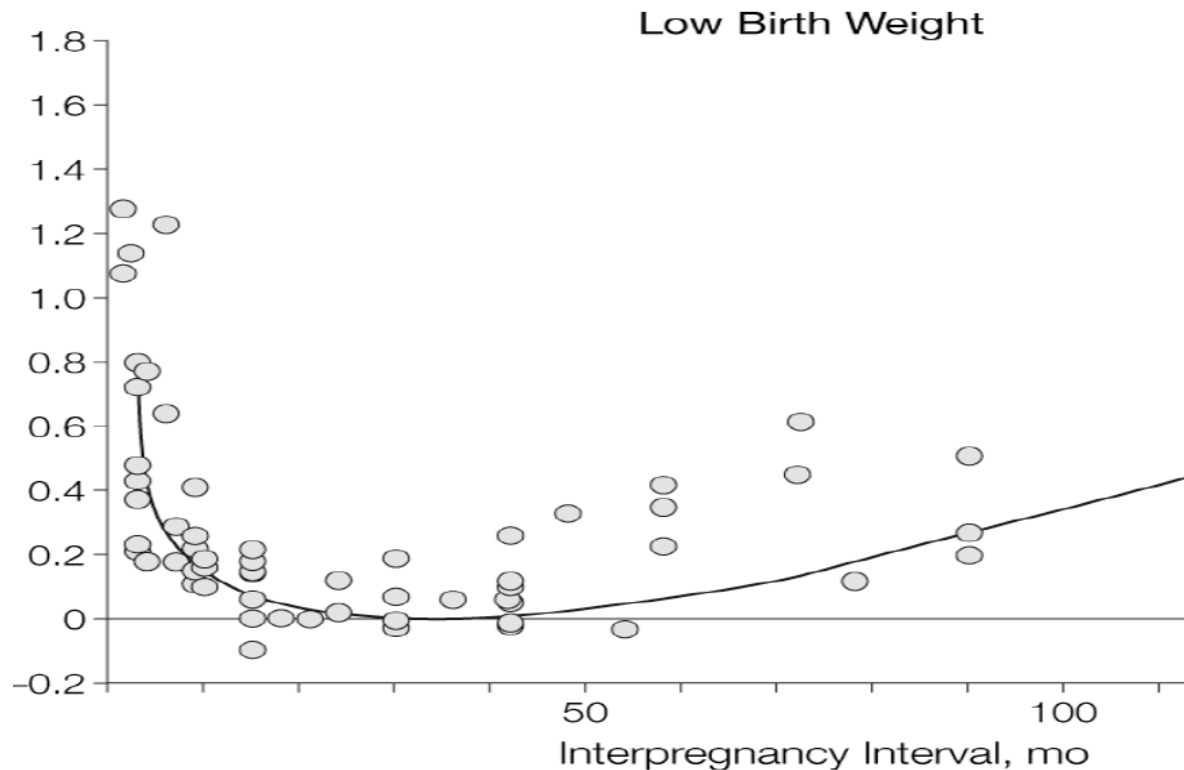
JAMA. 2006;295(15):1809-1823. doi:10.1001/jama.295.15.1809



The dose-response curve line represents estimates from a smoothed spline regression. The horizontal line at $y = 0$ represents no effect. Most studies provided ≥ 1 odds ratio estimate for several categories of interpregnancy intervals.

From: Birth Spacing and Risk of Adverse Perinatal Outcomes: A Meta-analysis

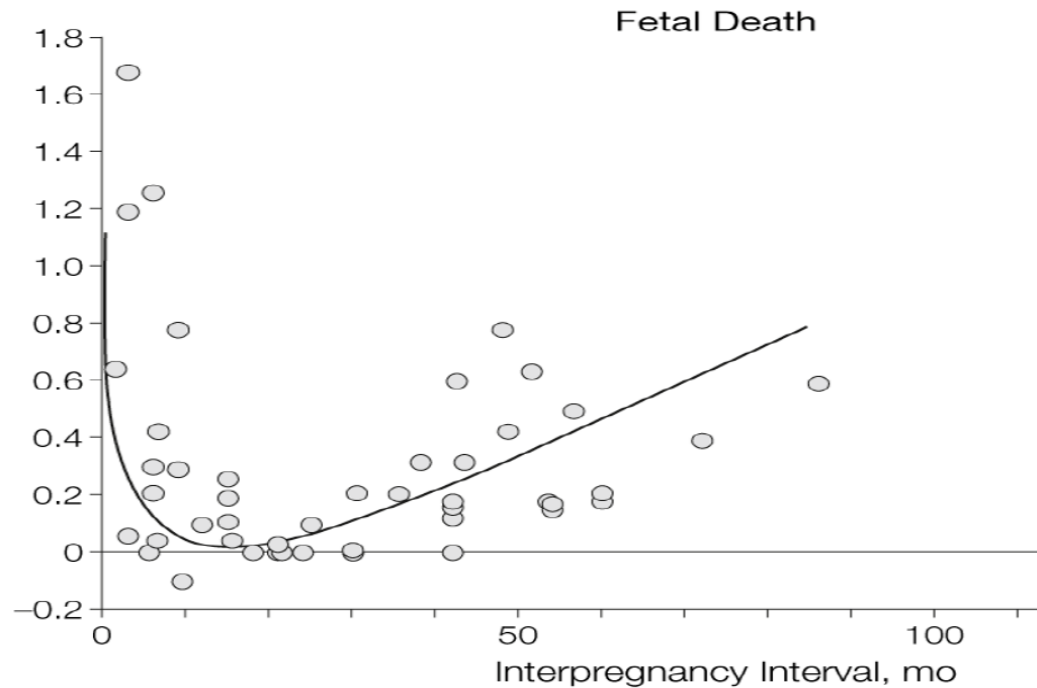
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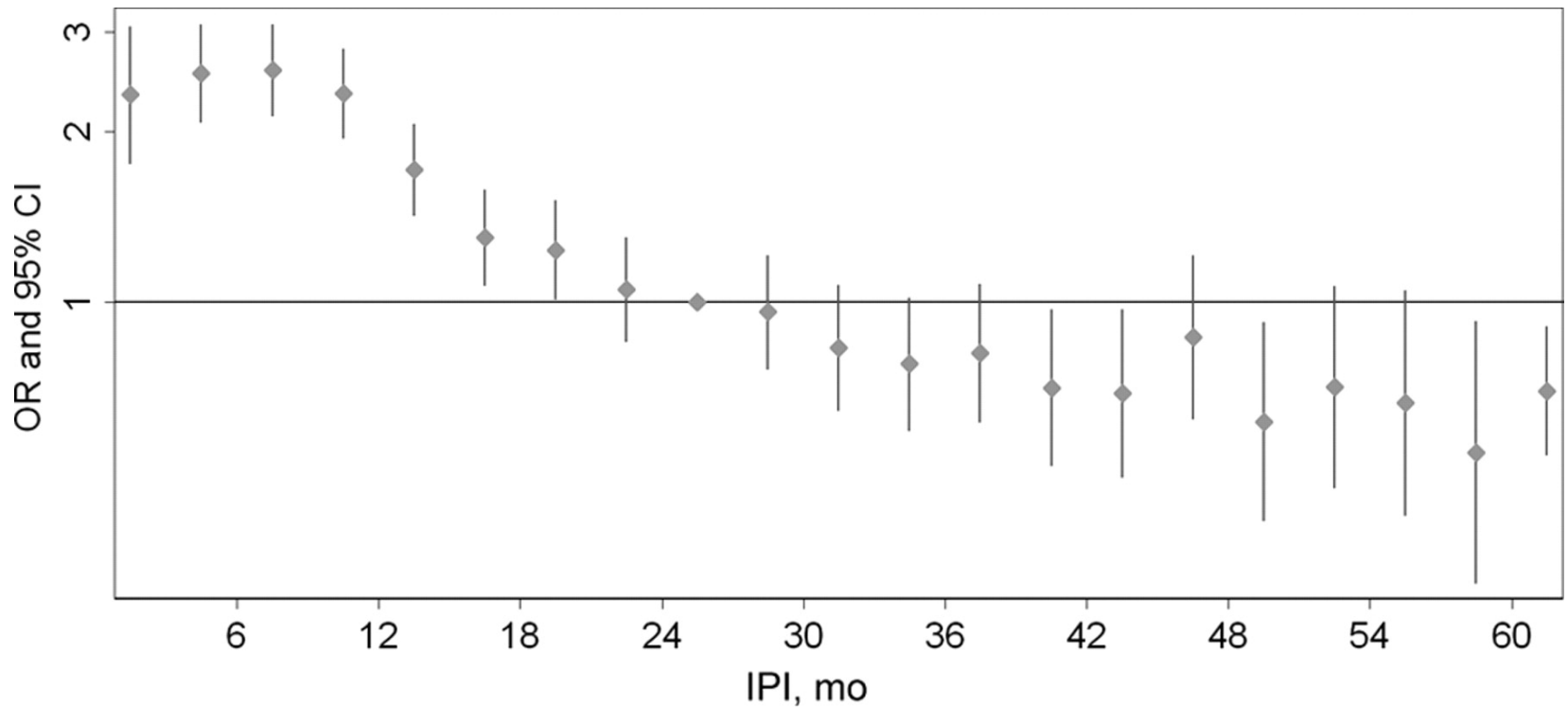
From: **Birth Spacing and Risk of Adverse Perinatal Outcomes: A Meta-analysis**

JAMA. 2006;295(15):1809-1823. doi:10.1001/jama.295.15.1809

Conclusions

Inter-pregnancy intervals shorter than 18 months and longer than 59 months are **significantly associated with increased risk of adverse perinatal outcomes**. These data suggest that spacing pregnancies appropriately could help prevent such adverse perinatal outcomes.

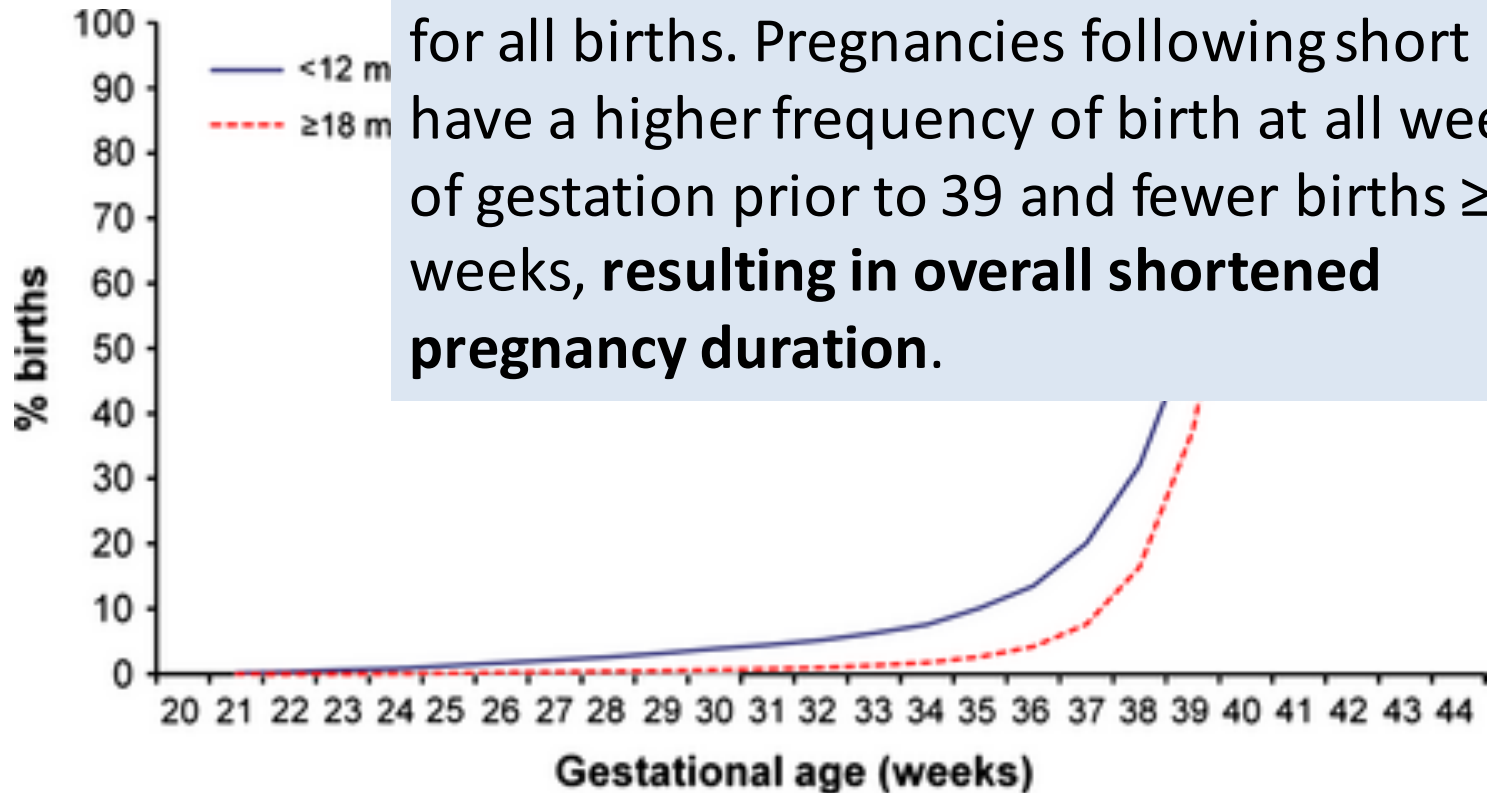
ORs and 95% CIs for autism according to IPI preceding conception, among 662 730 second-born singletons from full-sibling pairs born between 1992 and 2002 in California, where the first child was not diagnosed with autism.



Keely Cheslack-Postava et al. *Pediatrics* 2011;127:246-253

Influence of IPI on pregnancy duration

The data show that **inadequate birth spacing** is associated with decreased gestational age for all births. Pregnancies following short IPIs have a higher frequency of birth at all weeks of gestation prior to 39 and fewer births ≥ 40 weeks, **resulting in overall shortened pregnancy duration.**



The effect of inter-pregnancy interval following caesarean birth



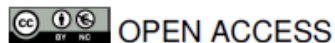
*National Institute for
Health Research*

UK Obstetric Surveillance show that following a caesarean birth women who had an interval of <12 months compared with ≥ 24 months have increased adjusted odds ratio of **3.12** (95% CI 1.62-6.02) **of uterine rupture**

Knight M, Acosta C, Brocklehurst P, Cheshire A, Fitzpatrick K, Hinton L, et al. Beyond maternal death: improving the quality of maternal care through national studies of 'near-miss' maternal morbidity. Programme Grants Appl Res 2016;4(9).

RESEARCH

Re-evaluation of link between interpregnancy interval and adverse birth outcomes: retrospective cohort study matching two intervals per mother



Stephen J Ball *scientist*¹, Gavin Pereira *postdoctoral associate*^{1,2}, Peter Jacoby *associate professor*¹, Nicholas de Klerk *professor*¹, Fiona J Stanley *professor*¹

Our study does not support the existence of a causal effect of short interpregnancy interval on adverse birth outcomes, and we propose that the associations between short intervals and adverse birth outcomes in other studies may be due to unmeasured confounding by persistent maternal factors

What they did find however...

Short IPI was found to be associated with:

- **Increased risk of gestational diabetes**
for IPI 0–5 months: OR 1.35, 95% CI 1.02–1.80
- **Beginning a subsequent pregnancy obese**
for IPI 0–5 months: OR 1.61, 95% CI 1.05–2.45
for IPI 6–11 months: OR 1.43, 95% CI 1.10–1.87

Prevalence of sIPI

Socioeconomic Position and Reproduction: Findings from the Australian Longitudinal Study on Women's Health

BMJ 2014;349:g4333 doi: 10.1136/bmj.g4333 (Published 23 July 2014)

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N. Holowko¹ · M. Jones¹ · L. Tooth¹ · I. Koupil^{2,3} · G. D. Mishra¹

RESEARCH

- Research from the US have shown that 35 to 40% of pregnancies were conceived within 18 months of a prior birth, with higher rates amongst younger woman, and those with unplanned pregnancies
- In Australia the prevalence of pregnancies conceived within 18 months is 35 to 43%

HealthyPer

Short I
United

Alison Gemmi

Short interpregnancy interval
retrospective cohort study
in the United States

Epidemiology

2014, 25(7), Pages 372-376



Birth spacing intention among women
with short interpregnancy interval: findings from
the 2009 Tennessee
Birth Monitoring System

RESEARCH

OBSTETRICS

The impact of postpartum complications on
reducing preterm birth: findings from

Maria I. Rodríguez, MD, MPH; Richard Chang, MPH; Heike Thiel de Bocanegra, PhD, MPH

Birth Spacing and Risk
of Adverse Perinatal Outcomes
A Meta-analysis

Aim



- To investigate women's **understanding** of ideal inter-pregnancy intervals
- Explore if counselling was received
- Report the **actual** inter-pregnancy intervals

Methods



Health
Sydney
Local Health District

Our study was conducted at The Royal Prince Alfred Hospital and Canterbury Hospital in Sydney, Australia.

Women were recruited in the antenatal clinic and were given a questionnaire to complete privately

Ethics was granted health area ethics committee

The questionnaire collected:

- demographic data
- previous obstetric history
- Inter-pregnancy interval
- contraceptive use
- perspectives on advice and timing of the current pregnancy and ideal birth spacing.

6. When was this last pregnancy? (miscarriage/termination/stillbirth or birth)	Day, Month and year _____
7. If you have had a previous birth how was your last baby born?	Normal <input type="checkbox"/> Forceps/Ventouse <input type="checkbox"/> Caesarean (emergency) <input type="checkbox"/> Caesarean (elective) <input type="checkbox"/>
8. How many weeks at birth was that baby?	_____ weeks
9. Did you breastfeed the baby	Yes fully for _____ months Yes partly for _____ months Not at all <input type="checkbox"/>
10. What do you think is the ideal space between a birth and getting pregnant again	6 months <input type="checkbox"/> 6 months to 1 year <input type="checkbox"/> 1-2 years <input type="checkbox"/> 2-3 years <input type="checkbox"/> Over 3 years <input type="checkbox"/> Don't know <input type="checkbox"/>
11. Did you use any contraception between the pregnancies	Yes which one _____ No <input type="checkbox"/>
12. Have you ever used any contraceptive methods in the past? If yes please tick	Pills <input type="checkbox"/> Condoms <input type="checkbox"/> Withdrawal <input type="checkbox"/> Intrauterine devices <input type="checkbox"/> Implants <input type="checkbox"/> Injection <input type="checkbox"/> Other <input type="checkbox"/>
12. If not what was the reason for this?	Never used contraception before <input type="checkbox"/> Don't understand contraception <input type="checkbox"/>

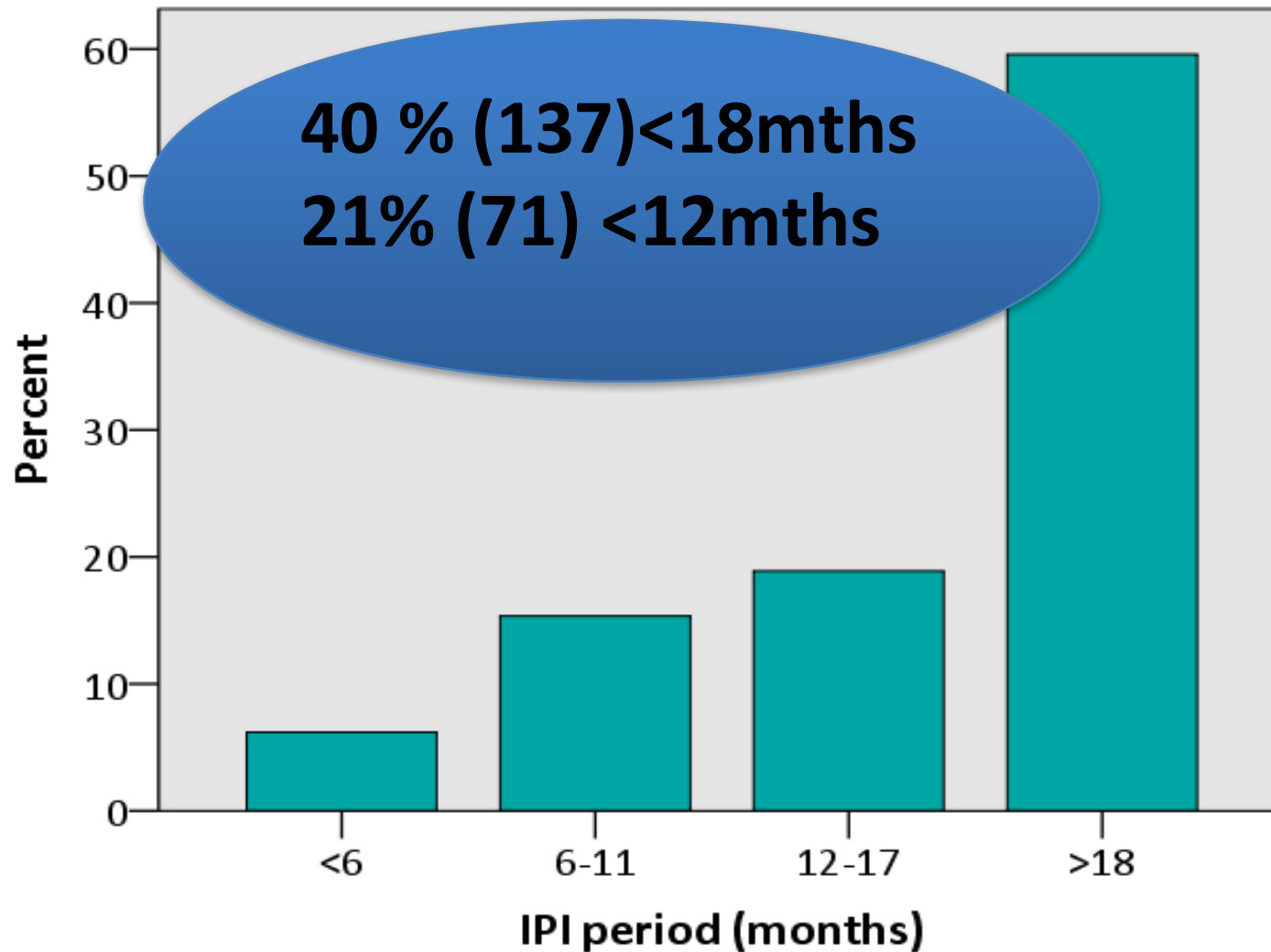
Results

- 467 women recruited
- 344 (74%) last pregnancy ended in a birth (i.e. we excluded women who's last birth was a miscarriage, termination or ectopic pregnancy)

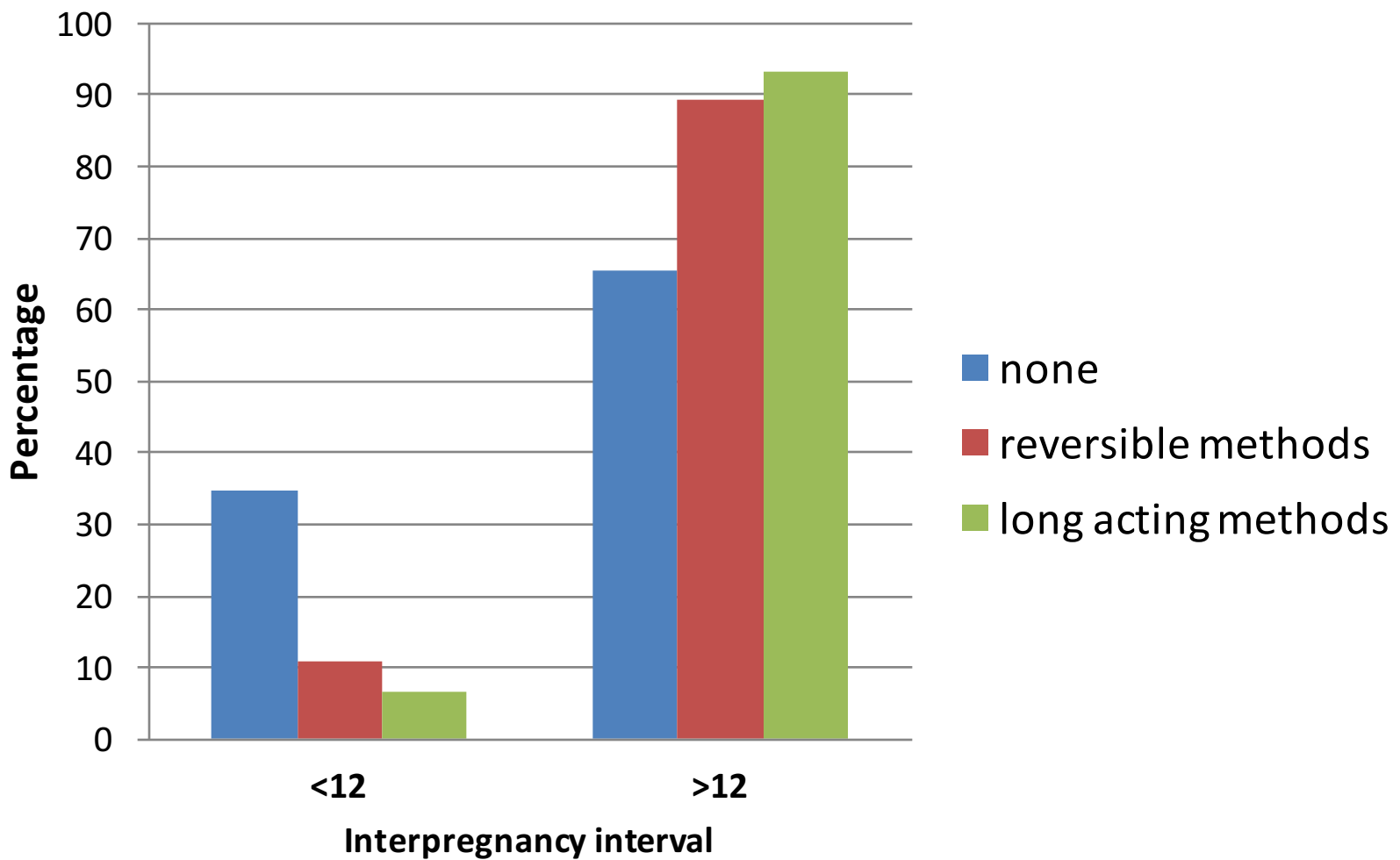
Age group	18-24	42 (12%)
	25-34	211 (61)
	35-39	73 (21)
	40 or over	18 (5)
Parity	1	200 (59)
	2	91 (27)
	3 or more	47 (14)
Relationship	Single	21 (6)
	Partnered	323 (94)
Employment	Fulltime work	90 (26)
	Part time work	91 (27)
	Study	11 (3)
	Unemployed/social security	151 (44)

Religion	Nil	118 (34)
	Muslim	103 (30)
	Hindu	17 (5)
	Christian	43 (13)
	Catholic/Orthodox	42 (12)
	Buddhist	14 (4)
	Other	7 (2)
Cultural Group	Australia/UK/NZ	71 (21)
	Aboriginal & Torres SI	7 (2)
	India/Pakistan	164 (48)
	Middle Eastern	31 (9)
	North Asian	41 (12)
	South and South East Asian	19 (6)
	Other	10 (3)

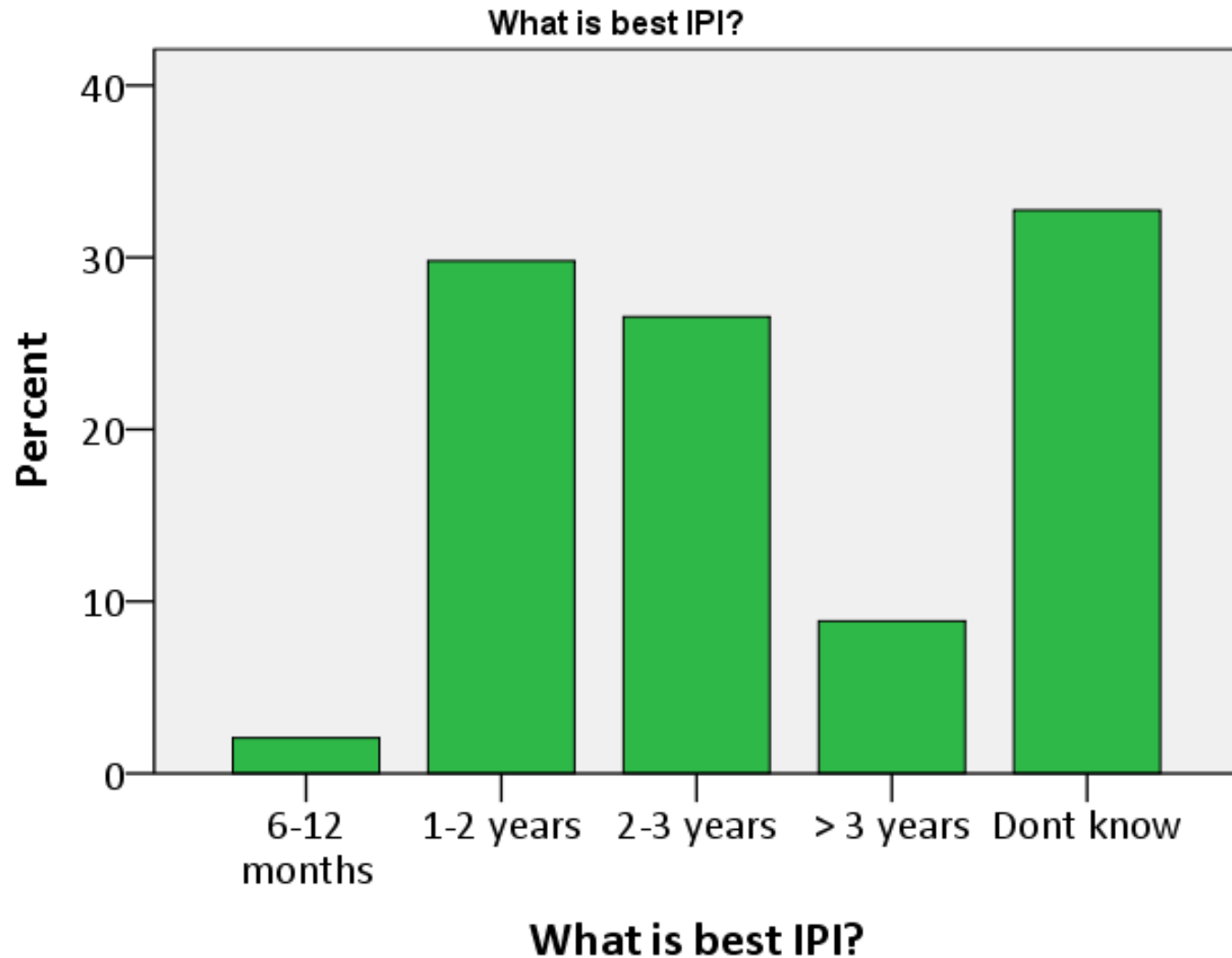
Inter-pregnancy interval



Contraception use and inter-pregnancy interval



What is the ideal IPI?



Advice inter-pregnancy interval

- 55% reported they did not receive advice about IPI timing

Women who's last birth was by caesarean were more likely to have received information but were no less likely to have had a sIPI

Timing....

- Only 45% of those conceived within 18 months said it was the right time.

Remember back to the study who found the increased risk of gestational diabetes and beginning a subsequent pregnancy obese with sIPI

What do we conclude from all this?

- We found a lack of information provision to women about ideal inter-pregnancy intervals from the hospital midwives, obstetricians or family doctors.
- Lacking contraception provision or discussion in the immediate post partum period was associated with inter-pregnancy intervals less than 12 months.