AIMS For a better birth...

After Birthplace

AIMS Journal, 2015, Vol 27 No 4

Louisa Noël looks at the Birthplace England follow-on study

The National Institute for Health Research has published a follow-on study1 to the 2011 Birthplace in England study.2

The original birthplace study looked at the safety outcomes for healthy mothers and babies by planned place of birth. These included hospital obstetric units (OUs), midwifery-led units in a hospital (alongside midwifery units or AMUs), midwifery-led units at a distance from the hospital (free-standing midwifery units or FMUs) and home.

The birthplace study was designed to 'support the development and delivery of safe, equitable and effective maternity services and to inform women's choice of birth setting by strengthening the evidence-base relating to planned place of birth.' The recently published follow-on study comprised five complementary studies examining:1

- whether intervention rates (such as forceps or ventouse delivery, and caesarean birth) and outcomes for the mother (such as 'straightforward birth' and 'normal birth') are affected by where the woman planned to give birth;
- any effect of the characteristics of the mother (such as how many babies she has had, ethnicity, social disadvantage and her age) on interventions and outcomes;
- transfers from non-OU settings during labour;
- whether there was any difference in outcomes depending on what time of day, or day of the week, women gave birth; and
- which women at 'higher risk' of complications plan birth in AMUs, FMUs or at home, how they are treated during labour and their outcomes.

The part of the study looking at 'higher-risk' women is reviewed in detail onpage 17 of this Journal. The remaining four studies, reviewed below, included only 'low risk' women. The same data, collected during April 2008 to April 2010, were used for both the 2011 and 2015 studies.

Place of birth

Overall, the likelihood of experiencing an intervention varies more between the different places of birth than would be expected by chance, and according to the study it isn't clear what causes these differences. In the case of births planned in an OU and AMU, these variations are seen for all types of interventions,

especially for women having their first baby. Women consistently experience fewer interventions when they plan to give birth in an FMU or at home. In particular, births planned in an FMU are less likely to result in a caesarean section, and planned home births are less likely to result in either a caesarean section or in a forceps or ventouse birth.

Interestingly, the study found that where proportionately more births within a trust are planned in an AMU, FMU and at home, those 'low-risk' women who do plan to give birth on the labour ward experience more interventions (especially caesarean section). The research also indicated that, where a hospital has an AMU, 'low-risk' women planning to have their first baby in the OU were more likely to have a caesarean section, and women having second and subsequent babies in the OU were less likely to have a 'normal birth' or 'straightforward birth'. The study did not explore why this might occur and whether this might be to do with the OU itself, with the characteristics of the women who plan to birth in an OU, or some interaction between the two.

For women having their first babies in an FMU, the size of the FMU appeared to have an effect on the intervention rates and on the likelihood of the woman transferring to hospital during labour. intervention and transfer rates for these women were lower in larger FMUs than in smaller ones. It appeared that interventions for women having their first baby and transfer rates for all women were also higher the further the FMU was from the nearest OU, but the study was unable to clarify to what extent this was due to more distant birth centres often being smaller. Could it be that transferring to an OU might be recommended sooner when transfer times are longer due to distance, or for some other reason, such as the skill and confidence of the midwives working there?

The study also indicated that in trusts where there is a high proportion of home births women birthing at home are more likely to have 'normal births', at least for a second or subsequent baby. Women are also less likely to be transferred to hospital during labour in those trusts. However, it isn't clear from this study what other factors impacted on those findings. Could it be that a well established and well-supported home birth service accounts both for higher numbers of women choosing home birth and better outcomes for those women?

Different groups of 'low-risk' women Regardless of where they planned to give birth, nonwhite 'low-risk' women are more likely to have a caesarean section than white 'low-risk' women. However, the study indicated that planning to give birth in an AMU, FMU or at home reduces the likelihood of interventions for both white and non-white women.

The study did not find significant associations between risk of interventions and levels of social disadvantage. The risk of interventions increased with age for 'lowrisk' women having their first baby in all settings but not for women having a second or subsequent baby. Women aged 35 or over having their first baby had a significantly higher chance of having a 'normal birth' or 'straightforward birth' in a non-OU setting.

Transfers during labour

This part of the study focused on whether transfers during labour to an OU are influenced by maternal characteristics (such as age, number of babies, ethnicity and social disadvantage) and 'complicating conditions'. It found that transfer rates were higher among women with 'complicating conditions' at the start of labour, such as waters breaking before labour starts or meconium in the amniotic fluid.

It did not seek to examine whether where a woman planned to give birth had any effect on whether she was likely to transfer to hospital during labour. However it noted that, although the risk of transfer during labour increases with age for 'low-risk' women planning births in AMUs and FMUs, this pattern was not observed in women planning home births.

In AMUs, the study suggested that there may be a link between staffing levels in the AMU and higher transfer rates among women having a second or subsequent baby. The research did not offer an explanation for this finding.

Time of day and day of week

Where birth was planned in an OU, 'normal birth' and 'straightforward birth' were less likely during weekday 'office hours' than at night. In other words there were more interventions carried out during 'office hours'. There appeared to be a peak in augmentation of labour (for example with syntocinon) and in epidural use for pain relief among women birthing at the end of the day and early evening.

In births planned in an AMU, there was no such clear association between outcomes and time of day/day of week, although augmentation of labour was less likely during weekday nights than at other times.

Conclusions

The follow-on study concluded that:

- 'Low-risk' women planning a birth in an AMU, FMU or at home have a lower risk of intervention; therefore caring for more women in out-of-hospital settings during labour would reduce intervention rates.
- There are benefits of midwifery-led care during labour for all 'low-risk' women.
- intervention rates differ considerably but for reasons that are not understood.
- How maternity care is organised has an effect on intervention rates.
- The impact of other factors, including labour ward practices, staffing and skill mix and women's preferences and expectations, on the use of intervention should be investigated further.
- 'Complicating conditions' at the start of labour (such as prolonged rupture of membranes, meconium staining and breech presentation) resulted in a statistically significant increase in the chance of transfer to hospital during labour.

The birthplace2 study, along with other studies, clearly shows that providing midwifery care in birth

centres and at home has many benefits for mothers and babies. These follow-on studies confirm this and raise important questions about how the services are organised and how midwifery skills might impact on normal birth and intervention rates.

References

1. Hollowell J, Rowe R, Townend J et al (2015) The birthplace in England national prospective cohort study: further analyses to enhance policy and service delivery decision-making for planned place of birth. Health services And Delivery Research. Volume 3 Issue 36. doi: 10.3310/hsdr03360.
2. Brocklehurst P, Hardy P, Hollowell J et al (2011) Perinatal and maternal outcomes by planned place of birth for healthy women with low-risk pregnancies: the birthplace in England national prospective cohort study. BMJ, vol. 343, p. d7400, Jan. 2011. See also www.aims.org.uk/pressReleases/bir thplaceInEngland.htm