

Record linkage improves assessment of interpregnancy interval (IPI)

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Objectives

To examine the impact on interpregnancy interval, of linking miscarriage and termination records to birth records.

Approach

Interpregnancy interval (IPI) is the time between the end of one pregnancy and conception in a subsequent pregnancy. IPI is one of the few modifiable risk factors for adverse birth outcomes. Information about the effect of IPI is particularly important to women who have suffered a pregnancy loss (miscarriage, termination or perinatal death) and want to conceive again. Accurate measurement of the IPI is important for research into its effect. However, most population-based studies have been limited to the use of birth data, which typically only records births of ≥ 20 weeks gestation. Record linkage offers the opportunity to identify pregnancies ending < 20 weeks.

Our study population was all pregnancies ≥ 20 weeks in New South Wales, Australia in 2012. The birth records were longitudinally linked to all prior birth records and, to all hospitalisations for pregnancy losses < 20 weeks gestation. We compared the IPI using birth records alone to the IPI when fetal loss data were included. We also determined the impact on the proportion of women identified with a prior pregnancy loss.

Results

Of 97,991 maternities in 2012 and using birth data alone, 49,650 (50.7%) women had a record of a previous birth with a mean IPI of 2.6 years (standard deviation ± 2.3 ; median 1.9 years). Linkage to hospital data identified 9,430 (9.6%) women with an early pregnancy loss in the preceding pregnancy, reducing the mean IPI to 2.3 ± 2.2 years (median 1.7 years).

Incorporating hospital records increased the number of women whose previous pregnancy had resulted in a loss. Using only the birth records, 616 (0.6%) pregnancies had been preceded by

a loss. With the expanded records of loss, there were 10,046 (10.3%) women whose pregnancy was preceded by a loss. This subgroup of women had a shorter mean IPI 1.7 ± 2.0 years (median 0.8 years). The impact was greater among nulliparous women.

Conclusion

Inclusion of records of pregnancy loss is important not just for accurate calculation of the IPI, but also for identification of women who have had a prior pregnancy; nulliparous women may have a preceding loss which goes unrecognised. Further, ascertainment of pregnancy losses can make a big difference in the calculated IPI for women whose preceding birth was a loss. This subgroup is one that can potentially benefit the most from accurate research on the effect of IPI.

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