

MACHON PUAH

Correlation or Causation?

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Last week we started discussing the prize paper from the Cleveland unit that examined the cause for the premature births and low birth weights that are seen after fertility treatment. Are they as a result of the fertility treatments themselves or rather a result of the couple's infertility problems and not due to the treatments?

As we saw last time, this argument is deeply related to the whole legitimacy of undergoing treatments; if they have a detrimental effect of subsequent births then we should be very wary about suggesting that a couple undergo fertility treatment. However, most couples facing fertility challenges do not have a great deal of choice in the matter, they need the treatment in order to get pregnant, despite the concern for their children's health.

When trying to ascertain the exact cause of the premature births and low birth weights it is essential to distinguish between two facts that are associated with each other as opposed to one that causes the other. It is a fact that people who experience infertility and undergo treatment have a great chance of delivering the baby early and statistically their children have a lower birth weight than other children. These two facts are related and correlated but that does not necessarily mean that having fertility problems causes premature births. Another association is that people who undergo fertility treatment suffer from premature births and low birth weights. Again, these are related but one may not cause the other.

In order to examine this question, the team in Cleveland examined over 750,000 treatment cycles and focused on those who had undergone fertility treatment due to tubal ligation. These were women who had previously undergone treatment to tie their fallopian tubes in order not to get pregnant. Later they were remarried or for some reason had decided that despite their previous desire to undergo permanent contraception they did want to get pregnant.

In such a case the only available option for these women was to undergo an in-vitro fertilization. The reason for this is that the IVF bypasses the blocked fallopian tube and a pregnancy can be achieved. This group of women is a perfect sample to prove not just an association between fertility treatments and premature births and low birth weights but a causation since we have been able to identify one factor only, namely fertility treatment without a fertility "problem".

This is essential when attempting to see beyond a correlation of factors but to be able to identify a causation in which one factor causes another and they are not only associated. More on this next week.