CPD

Answers to questions on study designs in the September issue

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1. Cohort:

   Advantages: reliable and more scientific. Yields an absolute risk and incidence. Gives a precise and real risk ratio. Good for common outcomes, especially those with a short 'life-span'. (Pregnancy is a good time to do a cohort study in). Several outcomes could be studied. Good for rare exposures, especially in clusters e.g. asbestos, aniline dyes, radiation.

   Disadvantages: Very expensive in terms of manpower, time and resources. Robust systems required for maintaining follow up over long periods e.g. U.S. Nurses Health study. 'End point' may be indeterminate e.g. death or development of lung cancer from tobacco exposure. Loss to follow up could be high.

   Case control:

   Advantages: Very easy and cheap to do. No follow up period. (Outcome has already happened.) Good for rare outcomes. Several exposures could be studied.

   Disadvantages: Easy to go wrong! Selection of a control could be problematic. Does not give a real risk but an odds ratio, hence the risk calculation is an approximation. Liable to recall bias.

2. i. When we know one treatment is better than the other;
   ii. When the patient is very vulnerable and hence her autonomy is compromised, e.g. terminal stage of cancer; when you are the only gynaecologist accessible to her.

3. 'Equipoise' – state of genuine uncertainty which treatment is better.

4. Zelen randomisation: this tries to address the ethical problem of 'lost autonomy' of the patient by restoring patient's choice. Randomisation is done before counselling; the patient is then given a choice of whether to 'stay' or 'move'.

5. All three. To be an analytical study, the comparison must be within the study and between similar groups (cohorts).

6. All three. To be an interventional study, the intervention in question must be an integral part of the study and in fact, be one of the input variables. (If in doubt ask 'what is the hypothesis?' and 'what are the input variables?') Note that a retrospective study could never be interventional.

7. Please note that for some of the following, there could be more than one correct answer:
   a. RCT, preferably blinded
   b. case control
   c. case reports/case series
   d. cohort or correlational
   e. case series/cohort (depending on the number of cases available)
   f. cohort
   g. RCT, single blind (assessor)
   h. case series
   i. pilot study
   j. case report
   k. RCT. Could be blinded by using the 'double dummy' technique.