CHAPTER 6 _____

# Blindness

**FUNDAMENTAL POINT**

*A clinical trial should, ideally, have a double-blind design to avoid potential problems of bias during data collection and assessment. In studies where such a design is impossible, a single-blind approach and other measures to reduce potential bias are favored.*

The main disadvantage of an unblinded trial is the possibility of bias. Participant reporting of symptoms and side effects and prescription of concomitant or compensatory treatment are all susceptible to bias. (Other problems of biased data collection and assessment by the investigator are addressed in Chapter 10.) Participants not on the new or experimental intervention may become dissatisfied and drop out of the trial in disproportionately large numbers. A trial of the possible benefits of ascorbic acid (vitamin C) in the common cold[16,17] started out as a double-blind study. However, it soon became apparent that many of the participants, most of whom were medical staff, discovered whether they were on ascorbic acid or placebo. Since evaluation of severity and duration of colds depended on the participants' reporting of their symptoms, this unblinding was important. Among those participants who claimed not to know the identity of the treatment, ascorbic acid showed no benefit over placebo. In contrast, among participants who knew or suspected what they were on, ascorbic acid did better than placebo. Therefore preconceived notions about the benefit of a treatment, coupled with a subjective response variable, may have yielded biased reporting. Only the alertness of the investigators prevented them from arriving at probably false conclusions. In addition, as more participants became aware of their medication's identity, the dropout rate increased. This was especially so in the placebo group.

16. Karlowski TR, Chalmers TC, Frenkel LD et al: Ascorbic acid for the common cold: a prophylactic and therapeutic trial, *JAMA* 231:1038-1042, 1975.
17. Lewis TL, Karlowski TR, Kapikian AZ et al: A controlled clinical trial of ascorbic acid for the common cold, *Ann NYAcad Set* 258:505-512, 1975.

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