

Study design: Case control

Cohort study — A cohort is a clearly identified group of people to be studied. A cohort study might identify persons specifically because they were or were not exposed to a risk factor, or by taking a random sample of a given population

Case-control study — A case-control study starts with the outcome of interest and works backward to the exposure. For instance, patients with a disease are identified and compared with controls for exposure to a risk factor. This design does not permit measurement of the proportion of the population who were exposed to the risk factor and then developed or did not develop the disease; thus, the relative risk or the incidence of disease cannot be calculated. However, in case-control studies, the odds ratio provides a reasonable estimate of the relative risk

Randomized controlled trial — A randomized controlled trial (RCT) is an experimental design in which patients are assigned to two or more interventions. One group of patients is often assigned to a placebo (placebo control) but a randomized trial can involve two active therapies (active control). They provide the best evidence to prove casualty

Intention to treat — The central principle underlying intention-to-treat analysis is that study participants should be analyzed according to the groups in which they were randomized, even if they did not receive or comply with treatment. The theoretical advantage of intention-to-treat analysis is that it preserves the benefits of randomization (ie, assuring that all of the unmeasured factors that could differ in the treatment and control groups remain accounted for in the analysis).

Mendelian randomization — Mendelian randomization refers to a non-experimental epidemiologic study design that examines the impact of natural genetic variation in the population on the relationship between an environmental exposure and disease. The primary goal is to establish evidence for a causal association between the exposure and disease

Question:

If one were to perform a case-control study to assess the role of dietary fiber in colon in which a group of patients with colon cancer could be compared with matched controls without colon cancer, the statistical analysis will provide for:

- a. Odds ratio
- b. Relative risk
- c. Incidence
- d. Prevalence

Answer: A - In case-control studies, the odds ratio provides a reasonable estimate of the relative risk