- **P-value:** The p-value is a measure that helps scientists determine whether their findings are significant or just due to chance. A low p-value (usually less than 0.05) suggests that the results are likely not random and are worth paying attention to.
- **Confidence Interval:** A confidence interval gives a range of values within which the true value of something (like an average or effect) is expected to lie. For example, if a study says the average height is 170 cm with a 95% confidence interval of 160-180 cm, it means we can be 95% sure the true average height is between 160 and 180 cm.
- **Odds Ratio:** The odds ratio is a way to compare whether the odds of a certain event happening are the same for two groups. For example, if you're comparing the odds of getting a disease in people who smoke versus those who don't, an odds ratio of 2 would mean smokers are twice as likely to get the disease.
- **Correlation Coefficient:** The correlation coefficient measures how closely two things are related to each other. It ranges from -1 to 1, where 1 means a perfect positive relationship, -1 means a perfect negative relationship, and 0 means no relationship at all. For example, a correlation coefficient of 0.8 between hours studied and exam scores would suggest that more studying is strongly associated with higher scores.
- **Hazard Ratio:** A measure of how quickly an event (e.g., death or disease progression) occurs in one group compared to another over time. An HR less than 1 indicates a lower risk in the treatment group. Example: An HR of 0.7 means the new drug reduces the risk of death by 30% compared to the old drug.
- **Relative Risk:** The ratio of the probability of an outcome (e.g., side effects or recovery) occurring in the treatment group compared to the control group. Example: An RR of 0.5 for side effects means the new drug halves the risk of side effects compared to the old drug.
- **Absolute Risk Reduction:** The difference in risk of an outcome between two groups, showing the actual reduction in risk due to the treatment. Example: If 10% of patients on the old drug experience side effects and only 5% on the new drug do, the ARR is 5%.
- **Number Needed to Treat:** The number of patients who need to be treated to prevent one additional bad outcome (e.g., death or disease progression). Example: An NNT of 20 means 20 people need to take the new drug to prevent one additional death compared to the old drug.
- **Number Needed to Harm:** The number of patients who need to be treated for one additional person to experience a harmful outcome (e.g., side effects). Example: An NNH of 50 means 50 people need to take the new drug for one additional person to experience a side effect compared to the old drug.
- **Survival Rate:** The percentage of people who survive for a specific period (e.g., 1 year or 5 years) after starting treatment. Example: A 5-year survival rate of 80% means 80% of patients taking the new drug are still alive after 5 years.
- **Progression-Free Survival:** The length of time during and after treatment that a patient lives without the disease getting worse. Example: A PFS of 12 months means patients typically go 12 months without their condition worsening on the new drug, compared to 8 months on the old drug.

- **Adverse Event:** Any negative side effect or problem that occurs during treatment, whether related to the drug or not. Example: Nausea, fatigue, or headaches reported during a clinical trial are recorded as adverse events.
- **Quality-Adjusted Life Years:** A measure that combines the length and quality of life gained from a treatment, often used to compare the overall benefit of different treatments. Example: A new drug that adds 2 years of life at 80% quality of life provides 1.6 QALYs.
- **Risk-Benefit Ratio:** A comparison of the risks (e.g., side effects) and benefits (e.g., improved survival) of a treatment to determine if the benefits outweigh the risks. Example: A new drug with a high survival benefit but mild side effects has a favorable risk-benefit ratio.
- **Sensitivity**: The ability of a test to correctly identify people who have the disease. For example, a test with 90% sensitivity correctly detects the disease in 90 out of every 100 people who have it.
- **Specificity**: The ability of a test to correctly identify people who do not have the disease. For example, a test with 95% specificity correctly identifies 95 out of every 100 healthy individuals as disease-free.
- **Positive Predictive Value (PPV)**: The likelihood that someone who has a positive test result actually has the disease. For example, a PPV of 80% means 8 out of 10 people with positive test results truly have the condition.
- **Negative Predictive Value (NPV)**: The likelihood that someone who has a negative test result actually does not have the disease. For example, an NPV of 90% means that 9 out of 10 people with negative test results truly don't have the condition.
- **Incidence Rate**: The number of new cases of a disease that occur within a specific time frame among a defined group of people. For example, an incidence rate of 5 per 1,000 people per year means that every year, 5 new cases occur for every 1,000 people in the group.
- **Prevalence**: The total number of people who have a certain disease or condition at a specific point in time. For example, if the prevalence of diabetes in a community is 10%, it means 10 out of every 100 people have diabetes at that time.
- **Mortality Rate**: The number of deaths caused by a disease in a population within a certain period, usually expressed per 1,000 or 100,000 people per year. For example, a mortality rate of 20 per 100,000 means that out of every 100,000 people, 20 die of that disease each year.
- **Intention-to-Treat Analysis (ITT)**: A method where all participants in a clinical trial are analyzed according to the group they were originally assigned, regardless of whether they completed the treatment. It helps provide a realistic view of the treatment's effectiveness in real-world conditions.
- **Median Survival:** The time point at which half of the patients in a study group are still alive, and half have died. For instance, a median survival of 18 months means half of the patients survived beyond 18 months.