REFERENCE RANGES

Scandinavian model/criteria is used

The exclusion criteria in setting up reference ranges consists of

1. Sickness
2. OCP/ smoking/ drugs of abuse
3. Physiological changes e.g. pregnancy

NOTE:- You have to pick an apparently healthy population (dx free)

In picking a number, randomization is important to prevent bias

Fischer’s criteria is used in order to set up the n value (no of observations to give enough statistical power)

n= 22P (1-P/d2)

The outlier values must still be analyzed and removed

2-outlier/SD = grobbs method to remove outliers

Calculated x > tabulated – reject null hypothesis

Other methods are Dicksons, Pearsons, Chaussettes

Step 1 – define all groups of reference individuals

Step 2 – list factors of biologic and analytical variations

Step 3 – determine exclusion criteria (disease, pharmacologic agents, specific physiologic states)

Step 4 – categorize potential reference individuals based on questionnaire and other assessment of health state, modes

Step 5 – exclude individuals from ref sample based on predetermined criteria

Step 6 – set appropriate no of individuals reference

-randomized to eliminate bias

-generate random numbers

n= 22P (1-P)/d2

Step 7 – prepare individuals for sample collection, according to procedures normally used for pts in the lab

Step 8 – process samples

Step 9 – methods – pre-analytical statistical standardizing

Step 10 – collect reference values – establish histogram to evaluate disturbance

Step 11 – identify possible errors and outliers

Step 12 – analyze reference values – statistical method

Step 13 – document all steps and procedures