Population Variation — gnomAD 1000G & Ethnopharmacology — Hands-on

Learn how population genetics and allele frequency resources like gnomAD and 1000 Genomes inform pharmacogenomic interpretation. You will connect ancestry linked PGx risks, population specific variant distributions and ethnopharmacology perspectives to build fair, context aware PGx summaries.

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Session Index

Session 1

Fee: Rs 8800 Apply Now

Population Genetics & Frequency Databases

Population genetics concepts for PGx practice

allele and genotype frequencies | **Hardy Weinberg intuition** | **population structure overview**

Role of frequency databases in PGx interpretation

distinguishing common vs rare variants | **linking frequency to prior probability** | **avoid over**

interpretation of rare alleles

Overview of major germline frequency resources

gnomAD (conceptual use) 1000 Genomes Project regional and ancestry specific panels

Session 2

Fee: Rs 11800 Apply Now

gnomAD, 1000G & PGx Variant Profiles

Exploring gnomAD style allele frequency tables

global vs sub population frequencies confidence intervals and counts caveats for under represented groups

1000 Genomes ancestry panels and PGx markers

continental ancestry groupings example PGx loci profiles linking to local populations conceptually

Visualizing PGx allele frequency differences

simple bar and heatmap style views high vs low frequency risk alleles implications for screening yield

Session 3

Fee: Rs 14800 Apply Now

Ethnopharmacology & Population PGx Risk

Ethnopharmacology concepts and equity lens

ancestry vs self identified ethnicity access and representation gaps ethical communication of risk

Case examples of population linked PGx risk

high frequency HLA risk alleles in regions PGx variants common in some groups impact on

screening strategies

Balancing individual and population level information

avoid stereotyping care | use genotype where available | transparent uncertainty statements

Session 4

Fee: Rs 18800 Apply Now

Mini Capstone: Population Aware PGx Summary

Select one PGx locus and build a frequency profile

extract multi population frequencies | identify high risk groups conceptually | note data gaps and limitations

Summarize implications for screening and dosing policy

where pre emptive testing is impactful | points for local guideline committees | equity and consent notes

Deliverables: one page population PGx brief and slides

PDF or PPTX | visual charts or tables | template for future projects