

$$H_0 : p = 0.063;$$

$$H_1 : p \neq 0.063;$$

$$p\text{-hat} = \frac{24}{301} = 0.0797;$$

$$p = \frac{6.3}{100} = 0.063;$$

$$z = \frac{(0.0797 - 0.063)}{\sqrt{0.063 \cdot \frac{(1 - 0.063)}{301}}} = 1.1925;$$

*critical*  $z = \pm 2.58$  at 0.01 level and two-tailed test.

Hence, computed  $z = 1.1925$  is in the interval  $(-2.58, 2.58)$ . So, fail to reject  $H_0$ .

And we can make next conclusion: that there is no sufficient evidence to indicate that the population of patients has a prevalence of IFG difference from 6.3%.