5) CONDITIONAL PROBABILITY

GIVEN:

MC1

$P(\text{MONITORING CALORIE INTAKE} = \text{YES}) = 0{,}0454761$

FPA HA

$P(\text{FREQUENCY OF PHYS ACTIVITY} = \text{HIGH ACTIVITY}) = 0{,}0563714$

N

$P(\text{NOBESITY} = \text{NORMAL\_WEIGHT})$

N

$P(\text{NOBESITY} = \text{INSUFFICIENT\_WEIGHT}) = 0{,}1288494$

↳ NOT OVERWEIGHT $0{,}1359545 = 0{,}1264035$

NO

$P(N = NO \mid MC1 = YES, FPA = HA) =$

$$\frac{P(MC1 = YES, FPA = HA \mid N = NO) \cdot P(N = NO)}{P(MC1 = YES, FPA = HA)} =$$

$P(MC1 = YES, FPA = HA \mid N = NO) =$

$P(MC1 = YES) \cdot P(FPA = HA) \cdot P(N = NO)$

$0{,}0454761 \cdot 0{,}0563714 \cdot 0{,}2648035 = 0{,}0006776$

$P(MC1 = YES, FPA = HA) = P(MC1 = YES) \cdot P(FPA = HA) =$

$0{,}0454761 \cdot 0{,}0563714 = 0{,}0025619$

$P(nc1 = YES, FPA = HA) =$

$P(nc1 = YES, FPA = HA \mid N = NO) \cdot P(N = NO) +$

$P(nc1 = YES, FPA = HA \mid N = 0) \cdot P(N = 0) =$

$0,0016776 \cdot 0,2648035 +$

$0,0025636 \cdot (1 - 0,2648035) = 0,0020642$

$P(nc1 = YES, FPA = HA \mid N = 0) =$

$P(nc1 = YES \mid N = 0) \cdot P(FPA = HA) =$

$0,0454751 \cdot 0,0563714 = 0,0025636$

$P(nc1 = YES \mid N = 0) = \frac{P(nc1 = YES, N = 0)}{P(N = 0)} =$

$\frac{P(nc1 = YES) \cdot P(N = 0)}{P(N = 0)} =$

$P(nc1 = YES) = 0,0454761$

$$\frac{0{,}00006776 \cdot 0{,}2648035}{0{,}0120642} = 0{,}0869251$$