

Conditional probability mass function, also known as the conditional PMF or the conditional mass. The conditional mass of X given $Y = y$ is

$$p_{X|Y}(x|y) = P(X = x | Y = y) = \frac{P(X = x, Y = y)}{P(Y = y)} = \frac{p_{X,Y}(x, y)}{p_Y(y)}.$$

For all of this to make sense, need $P(Y = y) > 0$.