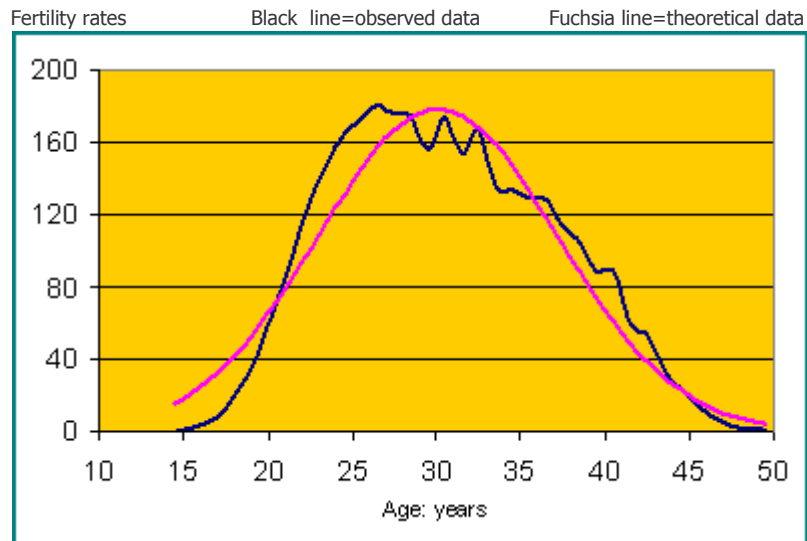


FERTILITY FUNCTIONS

(Source: Petrioli Luciano, "PRODEMOG 3.0-Demographic software for Windows", EMMECI-SIENA-ITALY,(2000).

NORMAL



Age-specific fertility rates: Italy, year 1932

The distribution of density for Normal ⁽¹⁾ is:

$$f(x) = \left(C / B \cdot \sqrt{2\pi} \right) \cdot e^{-[(x-A)^2 / 2B^2]} \quad [1]$$

while mean and variance are respectively:

$$MED = A ; \quad DS = B^2 \quad [2]$$

from which the values of parameters A and B are: $A = MED ; B = \sqrt{DS}$

(1) If in the formula [1] we place:

$$U = -\frac{1}{2B^2} ; \quad V = \frac{A}{B^2} ; \quad Z = \ln\left(\frac{C}{B\sqrt{2\pi}}\right) - \frac{A^2}{2B^2}$$

than a new formulation of the normal function ^(*) results. that is: $f(x) = \exp(Ux^2 + Vx + Z)$

(*) Petrioli, L.(1962), "Il calcolo dei rapporti nella interpolazione della curva normale",
Rivista italiana di economia, demografia e statistica, Vol.XVI, Roma.

