## NEW METHOD FOR CALCULATING CAUSAL RELATIONSHIPS

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I introduce some new methods, the mathematical formula for calculating the causal relationship c, methods for calculating the critical value, the p value, beta and power of the causal relationship c. The point of no return is the cause effect equivalence or in other words, the equivalence of two Bernoulli distributed random variables. Thus, since C<sub>i</sub>, the cause at the Bernoulli trial <sub>i</sub>, is a Bernoulli distributed random variable, which can only take the values 0 or 1, and, E<sub>i</sub>, the effect at the Bernoulli trial <sub>i</sub>, is a Bernoulli distributed random variable, which can only take the values 0 or 1, we get C<sub>i</sub> = E<sub>i</sub>. From this it follows according to Kolmogoroff that  $E(C_i) = E(E_i)$ . Thus we get  $\sigma(C_i) = \sigma(E_i)$  and at the end, after some calculations, we get the mathematical formula of the causal relationship c, as  $c = \sigma (C_i \wedge E_i) / (\sigma(C_i) * \sigma(E_i))$ . In practical applications, a reanalysis of published studies, I demonstrated, that Helicobacter pylori is the cause of the human stomac cancer ( p value = 0,00199831 ) and that the Epstein-Barr virus (EBV) is a cause of the invasive breast carcinoma ( p = 0,00003210 ).