Perfect powers in products with terms from arithmetic progression – A survey

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By a celebrated theorem of Erdős and Selfridge, the product of consecutive positive integers is never a power. It is an old conjecture that more generally the equation

$$m(m + d) \ldots (m + (k - 1)d) = y^n$$

has no solution in positive integers m, d, k, y, n with $\gcd(m, d) = 1$, $k \geq 3$, $n \geq 2$ and $(k, n) \neq (3, 2)$. This equation has been investigated by many people. In the last fifteen years the conjecture was confirmed for $k < 35$. In our talk we give a survey of these, and some related results and the methods utilized in the proofs.