Hypercontractivity is a widely studied topic in many different situations, mostly from a probabilistic point of view. In this talk, we propose to look at the trigonometric point of view, by studying the hypercontractive property for semigroups which are Fourier multipliers. More precisely, we are interested in “Poisson-like” semigroups acting on von Neumann algebras associated to discrete groups. By a combinatorial approach, hypercontractive estimates are obtained for a large class of groups. However, these estimates are not optimal. We will discuss a method, combining combinatorial arguments with a numerical part, which can yield optimal hypercontractive inequalities $L_2 \rightarrow L_q$ (with $q$ even integer) for groups having some nice properties. In particular, we obtain optimal results for $\mathbb{F}_2$, for some cyclic groups $\mathbb{Z}_n$ and for some triangle groups $\Delta(\ell, m, n)$. 