Quantum walks are quantum analog of random walks. Since a limit distribution of a discrete-time quantum walk on the line was derived in 2002, a lot of limit theorems for the quantum walks with a localized initial state have been reported. In my presentation, we focus on a convergence theorem in distribution of a discrete-time 2-state quantum walk on the line with a delocalized initial state. From the theorem, we realize that the quantum walk can create the Gauss, Wigner semicircle, arcsine, and uniform distributions. The result in my presentation is based on [1].