A comprehensive review on a journey of circularly polarized (CP) dielectric resonator antennas (DRAs) is presented in this paper. A general discussion of circular polarization and DRAs are stated at the front of the review. The techniques used by different researchers for generating circular polarization in DRAs are briefly studied in this paper. Evolution, significant challenges, and future aspects with new ideas in designing DRAs are indicated at the end of the review. The related empirical formulas used to find resonance frequency of dielectric resonator antennas are also discussed in this paper.