

Glass ionomer hybrid composite cements have been attracting interest among researchers due to their distinct advantages. These materials have grabbed people's attention as an alternative to excessive polymer biomaterial-based solutions in the human body, especially for load-bearing sites, such as posterior areas of tooth restorations, as well as for sites where adhesive plastic composite restoration has been weak. These include a significant increase in glass content by up to 73%, improved mechanical properties and durability, reduced curing sensitivity from direct contact to the surrounding environment, prolonged working time, and the number of possible re-setting, as well as favorable handling characteristics, which enable extensive applications, such as simple restoratives and prostheses, and favorable matching use for biomimetics and interdisciplinary synergy with adhesive functional composites. Glass ionomer cements (GIC) were first developed for orthodontic purposes, and in the 1970s, the powder was amalgamated into a resin to enhance mechanical properties, workability, and water resistance