

Üç Boyutlu Baskılı (3D-Printing) Prototiplerinin Farmasötik Teknoloji Alanında Geliştirilmesi

Ayça ALTAY BENETTİ¹

1. 3B Baskı Formülasyonlarının Farmasötik Teknolojide Yeri ve Tarihi

3B baskı teknolojisi, 1980'lerin başlarında Profesör Chuck Hull (1) tarafından icat edilmiştir. Ancak, bu teknolojinin ilaç sektöründeki uygulamaları o yıllarda ulaşılması zor olsa da, son on yılda gözle görülür bir artış göstermiştir.

3B gelişimine kısaca göz atacak olursak;

1980–1990: İlk 3B baskı teknolojileri bu yıllarda temelde prototip üretimine yönelikti. Farmasötik uygulamaları ise çok sınırlıydı (1).

1990–2000: Teknolojik ilerleme bu dönemde daha gelişmiş 3B baskı teknolojileri geliştirilmiştir. Ancak, hala büyük ölçüde endüstriyel uygulamalara odaklanılmamıştı.

2000–2010: Biyobaskı (biyolojik doku) bu dönemde ortaya çıkmıştır, yani 3B baskı teknolojisinin biyolojik ve tıbbi uygulamalar için kullanılmasının başlangıcını işaret etmektedir. Doku mühendisliği ve özelleştirilmiş tıbbi cihazlar için biyobaskı teknolojisinin geliştirilmesi bu dönemin önemli kilometre taşlarından (2).

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