# BÖLÜM 2

# AKILLI ALGORİTMALARLA PERİODONTOLOJİ: TANI, TEDAVİ VE EĞİTİMDE YAPAY ZEKANIN EVRİMİ

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## GİRİŞ

Günümüzde sağlık alanında dijital dönüşüm, yapay zeka ve makine öğrenimi teknolojilerinin hızlı bir şekilde entegrasyonunu beraberinde getirmiştir. Diş hekimliği özelinde ise bu teknolojiler, özellikle periodontoloji ve implantoloji gibi alt alanlarda tanı, tedavi planlaması, hasta yönetimi ve eğitim süreçlerini dönüştürme potansiyeline sahiptir. Bu bölümde yapay zeka ve makine öğreniminin temel ilkeler, derin öğrenme ve doğal dil işleme gibi alt bileşenleri ile birlikte, klinik ve dijital diş hekimliğindeki güncel uygulamaları detaylı şekilde ele alınmaktadır. Ayrıca biyobelirteç tabanlı analizler, radyolojik görüntü işleme ve büyük dil modellerinin değerlendirilmesi yoluyla yapay zeka destekli karar destek sistemlerinin diş hekimliğine nasıl entegre edildiği açıklanmaktadır.

## MAKİNE ÖĞRENİMİ VE YAPAY ZEKANIN PERİODONTOLOJİDEKİ YÜKSELİŞİ

Dijitalleşmenin giderek artması geniş veri kaynaklarından veri odaklı ve kanıta dayalı otomatik bir şekilde bilgi türetebilen, sonuçları etkileyen kararlar alınlamasına yardımcı olabilen makine öğrenimi ve yapay zeka gibi yeni yaklaşımların keşfedilmesini teşvik etmektedir. (1) Klasik hipotez testinden farklı olarak, makine öğrenimi ve yapay zeka yaklaşımları bulgu ve hipotez oluşturmaya yardımcı olur.

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nın diş hekimliğine mevcut entegrasyonu ve gelecekteki yönelimleri hakkında kapsamlı bir çerçeve sunulmuştur.

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