



ROBOTİK REHABİLİTASYON

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Rehabilitasyon; günlük yaşam için ihtiyaç duyulan fiziksel ve bilişsel yetenekleri geri kazandırmak, korumak, geliştirmek ve mümkün olan en üst fonksiyonel seviyeye ulaştırmak için ihtiyaç duyulan çeşitli tedavilerin uygulanma sürecidir. Vücut sistemlerinden herhangi birinin düzgün çalışmaması nedeniyle edinilmiş ya da konjenital rahatsızlıkları olan kişilerin bağımsızlığını ve yaşam kalitesini arttırmada rehabilitasyon hayati bir rol oynar. Tıpta geçmişten günümüze yaşanan gelişmeler, rehabilitasyon alanında da yaşanmaktadır. Elektronik ve bilgi işlem alanında yaşanan hızlı gelişmeler ve şüphesiz ki bu gelişmelerin en hızlı yaşandığı alan olan yapay zekâ, bu teknolojileri klinik rehabilitasyon uygulamalarına çevirmek için bir sorumluluk ve fırsat yaratmıştır.

Yapay zekâ, insan zekasının kullanılarak birtakım sorunları çözmek için komplike makineler ve bilgisayar sistemlerinin geliştirilmesi ve üretilmesidir. Yapay zekanın, matematik, mühendislik, iletişim, tıp ve sağlık hizmetleri gibi hayatımızın çok geniş ve çeşitli alanlarında uygulanabilir olduğu bilinmektedir. Tıp alanında; tıbbi testler, tanıya karar verme, teşhis ve tedavide yapay zekadan faydalanılmaktadır. Hastaların tedavisinde büyük bir yere sahip olan rehabilitasyonda da yapay zekâ giderek önemli bir hale gelmektedir. İlk zamanlar ortez-protez alanında mekanik ekstremitte destekleriyle başlayan çalışmalara bilgisayar sistemlerinin eklenmesiyle ilerlemeler devam etmiş ve günümüzde de devam etmektedir. Elektrikli robotik dış iskelet sistemleri (eksoskeletal), sabit sistemli end-efektör tip robotlar, giyilebilir sağlık monitörleri, robotik yapay ekstremiteler, artırılmış gerçeklik ve sanal gerçeklik sistemleri gibi yeni teknolojik gelişmeler, rehabilitasyona ihtiyaç duyan bireylerin tedavisinde önemli bir rol oynamakta, günlük hayatta bağımsızlık düzeyini ve yaşam kalitesini artırmayı mümkün kılmaktadır.

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matik olarak kontrol etmesi tartışılması gereken sorulardan biridir. Günümüzde yapay zekâ bu seviyeye ulaşmamış olsa da bazı araştırmacılar, yapay zekanın arkasındaki büyük veri model ve modüllerin insan aklının klinik yargısı yerine geçebileceğini düşünseler de bu konu gelecekte en çok tartışılması gereken konu olacaktır. Klinisyenlerin işlevlerinin şu anda mevcut yapay zekâ sistemleri ile değiştirilemeyeceği ve akıllı tedavi sisteminin mevcut koşullarda klinisyenler tarafından denetlenmesi gerekmektedir. Günümüzde robotik rehabilitasyonun diğer tedavi yöntemlerinin yerine değil, planlanan tedaviyi tamamlayıcı olarak kullanılması yönünde fikir birliği vardır. Dolayısıyla rehabilitasyona yardımcı olmayı, tedavi içeriğini zenginleştirmeyi, hasta değerlendirmelerinde objektif sonuçlar elde etmeyi amaçlar.

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