Claims

【Claim 1】 A digital system for treating myopia, the digital system comprising:
at least one processor; and
a memory storing a digital program for treating myopia;
wherein the processor is configured to execute the digital program to:
generate, by a digital instruction generation unit, one or more digital instructions based on at least part of a plurality of digital therapeutic modules configured to regulate one or more neurohumoral factors to treat myopia, wherein the plurality of digital therapeutic modules comprise an eye exercise module for promoting IGF secretion;
provide, by the digital instruction generation unit, the one or more digital instructions to a subject; and
collect, by an outcome collection unit, the subject’s execution outcomes of the one or more digital instructions.

【Claim 2】 The digital system of claim 1, wherein the processor is further configured to perform calibrating of an accuracy of measurement of the subject's eye position.

【Claim 3】 The digital system of claim 2, wherein the processor is further configured to determine the threshold for detecting the subject’s eyes based on the calibrating of the accuracy of measurement of the subject’s eye position.

【Claim 4】 The digital system of claim 2, wherein the calibrating the accuracy of measurement of the subject's eye position comprises one or more of instructing the subject to position their face to appear on a screen of the digital system, detecting the subject's eyes for a given period of time, instructing the subject to blink their eyes, detecting if the subject blinked their eyes, or instructing the subject to move their eyes in a given direction or rotate their eyes.

【Claim 5】 The digital system of claim 2, wherein the processor is configured to perform the calibrating at a start of a session each day.

【Claim 6】 The digital system of claim 1, wherein the processor is further configured to perform calibrating of an accuracy of measurement of a light environment,

wherein the calibrating of the accuracy of measurement of the light environment comprises one or more of detecting light in the subject's environment using a light sensor of the digital system, and instructing the subject to turn on one or more lights in their environment.

【Claim 7】 The digital system of claim 1, wherein the processor is further configured to determine at least one of an exercise intensity (EI) and an average exercise intensity (AEI) based on the subject’s execution outcomes of the digital instructions.

【Claim 8】 A system for treating myopia, comprising:

a digital apparatus configured to execute a digital application for treating myopia in a subject;

a healthcare provider portal configured to provide one or more options to a healthcare provider to perform one or more tasks to prescribe treatment for the myopia in the subject based on information received from the digital application; and

an administrative portal configured to provide one or more options to an administrator of the system to perform one or more tasks to manage access to the system by the healthcare provider.

【Claim 9】 The system of claim 8, wherein the digital apparatus is configured to execute the digital application to:

generate one or more digital instructions based on at least part of a plurality of digital therapeutic modules configured to regulate one or more neurohumoral factors to treat myopia;

provide the one or more digital instructions to a subject; and

collect the subject’s execution outcomes of the one or more digital instructions.

【Claim 10】 The system of claim 9, wherein the plurality of digital therapeutic modules comprise behavioral instruction deduced in relation to the subject’s environment, behaviors, emotions, and cognition;

wherein the digital apparatus (i) comprises a sensor sensing adherence by the subject to the digital instructions, (ii) transmits adherence information, based on the adherence, to a server, and (iii) receives second digital instructions from the server based on the adherence information.

【Claim 11】 The system of claim 8, wherein the one or more options provided to the healthcare provider comprise a viewing or editing personal information for the subject, and the personal information comprises one or more selected from the group consisting of an identification number for the subject, a name of the subject, a date of birth of the subject, an email of the subject, an email of the guardian of the subject, a contact phone number for the subject, a prescription for the subject, and one or more notes made by the healthcare provider about the subject.

【Claim 12】 The system of claim 8, wherein the one or more options provided to the healthcare provider comprise a viewing adherence information for the subject, and the adherence information of the subject comprises one or more of a number of scheduled or prescribed digital therapeutic modules completed by the subject, and a calendar identifying one or more days on which the subject completed, partially completed, or did not complete one or more scheduled or prescribed digital therapeutic modules.

【Claim 13】 The system of claim 8, wherein the one or more options provided to the healthcare provider comprise a viewing a result of the subject for one or more at least partially completed digital therapeutic modules, and the result of the subject for one or more at least partially completed digital therapeutic modules comprises one or more selected from the group consisting of a time at which the subject started a scheduled or prescribed digital therapeutic module, a time at which the subject ended a scheduled or prescribed digital therapeutic module, an indicator of whether the scheduled or prescribed digital therapeutic module was fully or partially completed, and an exercise intensity (EI).

【Claim 14】 The system of claim 8, wherein the one or more options provided to the administrator of the system are selected from the group consisting of adding or removing the healthcare provider, viewing or editing personal information for the healthcare provider, viewing or editing deidentified information of the subject, viewing adherence information for the subject, viewing a result of the subject for one or more at least partially completed digital therapeutic modules, and communicating with the healthcare provider.

【Claim 15】 A method for treating myopia, the method comprising:

generating, by a digital instruction generation unit, one or more digital instructions based on at least part of a plurality of digital therapeutic modules configured to regulate one or more neurohumoral factors to treat myopia, wherein the plurality of digital therapeutic modules comprise an eye exercise module for promoting IGF secretion;

providing, by the digital instruction generation unit, the one or more digital instructions to a subject; and

collecting, by an outcome collection unit, the subject's execution outcomes of the one or more digital instructions.

【Claim 16】 A computer-readable recording medium storing a program to execute the method of claim 15 on a computer.