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Module for DYSPRAXIA

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ABSTRACT

In India 6 to 10 % of the population is affected by dyspraxia with 2% are severely affected by dyspraxia. It is defined as the Developmental Coordination Disorder (DCD) of the brain in childhood causing difficulty in activities requiring coordination and movements. Developmental coordination disorder may occur alone or with other developmental disorder such as DYSLEXIA, Attention /Hyperactivity Disorder (ADHD). It usually continues to adulthood. The main objective of this module is to improve the child's disability. To support individual and families affected by DCD and to help perfection in health and educate to assist that dyspraxia/DCD. The further most important objective is to educate teachers and school-based therapists to increase the awareness and understanding of DYSPRAXIA. The major aim of the project is to improve the child's gross motor movements. To increase the mental confidence of dyspraxia patients. To identify great scientist to the world with this disorder. Better living conditions and more hope in the life of people with DYSPRAXIA. And to create awareness about DYSPRAXIA in future and mainly to save many people's life.

Keywords— DYSPRAXIA, Movement disorder, Difficulty in running, Walking, Stairs, Neurological problem, Coordination difficulty

1. INTRODUCTION

Dyspraxia is from two words "dys" (signifying trouble) and "praxis" (indicating trouble in development). Dyspraxia prompts issues with coordination of gross developments (for instance, kicking a ball, walking, running), coordination of fine developments (for instance, holding a spoon), discourse and language. It influences the patient's capacity to play out a wide scope of routine errands.

DYSPRAXIA, otherwise called Developmental co-appointment issue (DCD), is a condition influence the mind physical co-appointment that makes a youngster perform less well than anticipated in everyday exercises for his or her age, and seem to move clumsily.

Dyspraxia affects about 6-10% of all children, but the prevalence rate of dyspraxia is greater than this, as many children with symptoms have never been officially diagnosed. It is four times more common in boys than in girls. There are many adults who have been diagnosed with dyspraxia later in life as their symptoms went unnoticed during their childhood. Here is a lot of overlap between the signs and symptoms of dyspraxia and dyslexia: research suggests that 52% of children with dyslexia have features of dyspraxia (Kaplan 1998). The term dyslexia is used to describe a difficulty learning to read, write and spell. People with dyslexia often have poor Organisational skills and may have difficulty with language (spoken and heard) and with maths. Like dyspraxia, the term dyslexia is used to describe a set of symptoms. It is usually identified by educational experts, and help focuses on specialist teaching of reading, writing and spelling. There is an overlap between dyslexia and dyspraxia (and many people have both types of difficulty) and then dyspraxia may shade off into attention deficit hyperactivity disorder.

2. DIFFERENT METHODS TO TREAT DYSPRAXIA

2.1 Speech and language therapy

For some children, the primary difficulty in making and co-coordinating the movements, which are used in the production of spoken language, which results in severe and persisting speech production difficulties, so this children's are diagnosed with

2.2 Physical therapy

Physical therapists work with children with DCD to improve muscle strength, coordination, and balance, and help them develop skills to improve their daily activities and quality of life. A physical therapist will teach you and your child exercises to increase muscle strength.

2.3 Neuro developmental pediatricians

Paediatrician (hospital and community) or paediatric neurologist is likely to turn to the physiotherapist and occupational therapist to help in the diagnosis of DCD, and also to involve educational, clinical or neuropsychologists in the assessment of associated difficulties

2.4 Occupational therapy

- Occupational therapists (OTs) use a range of strategies to help kids with DCD build motor skills.
- The strategies they use depend on the child's specific weaknesses.
- Handwriting, cutting with scissors and tying shoes are common tasks that OTs work on.

2.5 paediatrician

Paediatrician may work at a child development centre

Paediatricians needed to help rule out other conditions that affect the brain and nervous system of the brain and give medicine

3. OBJECTIVES

- The main objective of this module is used to improve the Childs disability.
- It can also help to scan the dyspraxic children.
- To support individual and families affected by DCD, to help perfection in health and education to assist those DCD Conditions.
- The further most important objective is to educate teachers and school-based therapist to increase the awareness and understanding of DYSPRAXIA.

4. PROPOSAL

Doctor of Praxia focuses on improving Gross motor movement. Since it is a Neurological disorder it cannot be treated through medicines so these conditions can be improved through practice or therapies. Though it is a disorder these doesn't affect the normal behavior of patients. Hence it cannot be called as a disease but called as a disorder. People exhibit this disorder due to improper neurological signals from the brain to legs or hands. Hence this can be corrected through practice.

This proposed method of practice helps to improve the neurological conditions .the proposed method has a sensor and a processor that does the job required. The sensor is set with a preset value that boundaries the footprint .the patient is required to step on the imprinted footprint .the preset value in sensor make sure that the patient steps only onto the print .the processor checks the value from the sensor and compare with the present value and shows a result through lcd. The lcd helps the patient to know whether the steps taken by them is correct or wrong.

The light indicator alerts when the patient places the foot correctly on the print the helps them to practice continuously, by learning the correct balance while walking.

The buzzer present notifies whenever the patient steps incorrectly and makes sure the patient repeats the process again hence practising is make easy without any assistance.

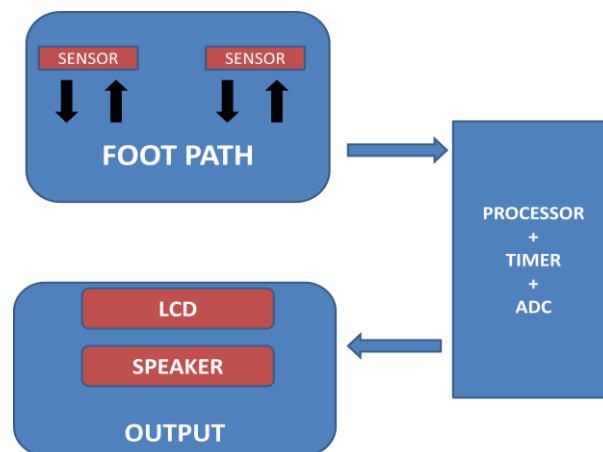


Fig. 1: Proposal

5. WORKING OF MODULE

The basic module is named DOCTOR OF PRAXIA , is build up with the help wood of 6*1.8 ft and it's been cut at the middle to carry easily and at the top it is stickered with sticker of footpath at the base it is moulded with the mat so that the FRC at the bottom will not damage. The ultrasonic sensors are placed with the help of ultrasonic holder and the ultrasonic sensors are used to determine the foot when placed on the footprint.

The LED light is placed at the front of each footprint so that the patients can easily identify the next step to be placed. All these connections are interlinked by FRC cable and FRC connectors. All LED connections are connected to TIP121 IC to boost the power supply from 5v to 12v and to support this power supply HW battery is connected to IC

The DOCTOR OF PRAXIS works on the concept , first the indicator light will be shown ON so that the person should keep is foot over the footprint if the sensors detect the foot ,the next indication light will be turned ON to show or notify that to proceed with next step ,the buzzer will beep if the foot path is detected within the foot print, and the LCD will show that the foot kept on foot print is right or wrong ,If the foot is placed outside the foot print the buzzer will be warning and the LCD will notify that it is wrong, and the next indication light will not turn ON this process will be repeated again and again.

Once the signal is detected by sensor it will send the signal to microcontroller through FRC cable and the FRC cable are connected through to jumpers and the microcontroller will send the information to LCD and LED Each LED positive and negative connections are connected and soldered to each tip 121 IC to its base, collector, and emitter.

This process is repeated again and again till the patients finish the walking path correctly

5. CONCLUSION

- The main aim of this paper is to identify and to approach differently and treat DYSPRAXIA conditions.
- The footpath with the help of sensors will be able to correct and to treat Dyspraxic patients, and help us to improve the Dyspraxia conditions
- This will also help to improve the concentration of the dyspraxia affected patients.

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