**Alterations of the emotional processing system may underlie preserved rapid reaction time in tinnitus**

**公共数据库的音乐脑部磁共振**

"Mente Autism" 是一种神经反馈（neurofeedback）设备，专门设计用于自闭症谱系障碍（ASD）患儿的治疗。神经反馈是一种非药物干预方法，通过监测个体的脑电活动，并将这些活动反馈给个体，以帮助他们学会自我调节脑电活动，从而改变一些行为和认知方面的问题。

Mente Autism设备利用神经反馈原理，通过监测脑电活动并提供实时的声音、图像或其他反馈，帮助ASD患儿学会调节他们的大脑活动。这种方法的理论基础是，通过自我调节脑电活动，患者可能会改变他们的认知、情感和行为，从而减轻自闭症症状。

在前述研究中，研究人员使用Mente Autism设备进行了为期12周的神经反馈治疗，发现该治疗能够在ASD儿童中引起大脑活动、感觉运动行为和行为方面的显著变化，这表明该设备可能对改善ASD症状具有一定的疗效。

需要注意的是，具体的治疗效果可能会因个体差异而有所不同，因此在使用此类设备时，应该在专业医生或医疗专家的指导下进行，并结合其他治疗方法和干预措施。

α-2受体拮抗剂尤希宾（Yohimbine）是一种药物，通常用于治疗性欲减退、性功能障碍以及肥胖等情况。它的作用机制主要是通过拮抗α-2肾上腺素受体，从而增加去甲肾上腺素（一种神经递质）的释放。这可能导致神经系统的兴奋，增加心跳、血压等生理反应。

尤希宾最早作为治疗勃起功能障碍的药物被引入，但后来也被研究用于其他领域，包括心血管疾病、焦虑症状的研究等。在一些研究中，尤希宾被用来探究与焦虑和恐惧有关的生理机制。在这些研究中，尤希宾通常会被用来激发焦虑状态，然后观察其对生理和心理反应的影响。

需要注意的是，尤希宾可能会引起一系列副作用，包括心跳加快、高血压、不适感、恶心等。此外，尤希宾的使用必须在医生的监督下进行，因为它可能与其他药物相互作用或引发不良反应。

[www.soundcloud.com](http://www.soundcloud.com/)这个网站有双耳节拍的项目

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Register: IRCT

Last refreshed on: 29 January 2019

Main ID: IRCT20180205038630N3

Date of registration: 2019-01-16

Prospective Registration: Yes

Primary sponsor: Kermanshah University of Medical Sciences

Public title: effect of theta binaural beat on primary insomniacs

Scientific title: Study of the efficacy of theta binaural beat on the activity of brain waves in primary insomniacs

Date of first enrolment: 2019-01-21

Target sample size: 24

Recruitment status: Recruiting

URL: http://en.irct.ir/trial/36419

Study type: interventional

Study design: Randomization: Not randomized, Blinding: Not blinded, Placebo: Used, Assignment: Parallel, Purpose: Treatment.

Phase: N/A

Countries of recruitment

Iran (Islamic Republic of)

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Key inclusion & exclusion criteria

Inclusion criteria: Informed consent and willingness to participate in research

Evaluation of the index of insomnia severity index (ISI) at the clinical level (Score above 15) In order to enter the clinical interview

Diagnosis of primary insomnia in a clinical interview by a psychiatrist

The absence of severe neurological and psychiatric disorders

Healthy physical and auditory condition

No history of drug abuse

Lack of cardiovascular problems

Non-pregnant female participants

Avoiding alcohol and drugs 12 hours before intervention

Exclusion criteria: The annoying nature of the music used

The occurrence of any physical and psychological warning signs such as headache

Unwillingness to continue protocol of intervention by the patient

Many artifacts during brain wave recordings, such as shaking or talking

Age minimum: 15 years

Age maximum: no limit

Gender: Both

Health Condition(s) or Problem(s) studied

Primary insomnia.

Insomnia not due to a substance or known physiological condition

Intervention(s)

Intervention 1: Experimental group: Binaural beats are generated through Audacity software. The produced Binaural beat is at 6 Hz (theta) frequency. First, it is recorded for 5 minutes with closed eyes of the patient's brain waves through electroencephalography. Then, immediately for 15 minutes, with closed eyes, the theta binaural beat is heard through the headphones by the patient. In the final stage, the brain waves of the patient with closed eyes will be recorded for 5 minutes without receiving the binaural beat. For each patient, only one session is performed, which runs for the first 5 minutes as a pre-test, 15 second, post-test, and the last 5 minutes as follow-up. Intervention 2: Control group: White noise is a signal whose power density is the same at all frequencies. Such a sound will have all the audible frequencies of the same intensity. Therefore, they can be used as a placebo as in the research literature. First, it is recorded for 5 minutes with closed eyes of the patient's brain waves through electroencephalography. Then, immediately for 15 minutes, with closed eyes, the theta binaural beat is heard through the headphones by the patient. In the final stage, the brain waves of the patient with closed eyes will be recorded for 5 minutes without receiving the binaural beat. For each patient, only one session is performed, which runs for the first 5 minutes as a pre-test, 15 second, post-test, and the last 5 minutes as the follow-up.

Primary Outcome(s)

Brain wave pattern. Timepoint: Within 5 minutes before the intervention, 15 minutes during the intervention and 5 minutes later. Method of measurement: Electroencephalography (EEG).

Secondary Outcome(s)

Secondary ID(s)

Source(s) of Monetary Support

Kermanshah University of Medical Sciences

Secondary Sponsor(s)

Ethics review

Status: Approved

Approval date:

Contact:

Ethics Committee of Kermanshah University of Medical Sciences

Results

Results available:

Date Posted:

Date Completed:

URL:

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这是个在研项目

可以在低于听觉阈值的水平下诱发[1]。

From the most to the least applied therapies, these were: 1st - self sound stimulation, 6th - masker, 11th - Tinnitus Retraining Therapy (TRT), 18th - notched music, 19th - soundcure, 20th - acoustic neuromodulation, and 21st - neuromonics. 耳鸣的音乐疗法

Gnaural Binaural Beat Audio Generator 2.0这是一个开源的双耳节拍软件

频率由软件（Brain Waves Binaural Beats，MynioTech Apps，Chapeco，Santa Catarina，巴西）产生

[1] A. Calvano, L. Timmermann, P.A. Loehrer, C.R. Oehrn, I. Weber, Binaural acoustic stimulation in patients with Parkinson’s disease, Frontiers in Neurology 14 (2023).