

## BEISPIELSTUDIE

### **Balance in young female ballet students suffering from chronic knee pain: The effect of physiotherapy with and without a mirror.**

#### **KATEGORISIERUNG**

##### **Gattung**

Forschungsprojekt mit lebenden Personen

##### **Art**

##### **Unterart**

Klinischer Versuch mit Interventionen, die weder ein Heilmittel oder ein Transplantatprodukt noch eine Transplantation sind ("übriger klinischer Versuch")

#### **BACKGROUND**

In literature there is general consensus that using a mirror improves proprioception. During rehabilitation, a mirror is very useful for improving stability. In some sports, such as dancing, mirrors are widely used in training. This study evaluated the effectiveness of physiotherapy with mirror on balance in young dancers.

#### **METHODS**

This study included young dancers (aged 19-25) suffering from chronic knee pain. They were randomly assigned to receive physiotherapy, one to one, with a mirror (mirror- group) or without a mirror (non-mirror group). Their balance was evaluated by BESS (Balance Error Scoring System), which consists of three stances (double limb, single limb, and tandem) on two surfaces (firm and foam). Errors were assessed at each stance and summed to create the two subtotal scores (firm and foam surface) and the final total score (BESS). The BESS was measured at recruitment (T0) and again after 6 months of dance lessons (T1). Primary outcome was difference in total BESS between the groups.

#### **CATEGORISER-FRAGEN**

##### **Fällt das Forschungsprojekt in den Geltungsbereich des Humanforschungsgesetzes?**

Ja

##### **BECAUSE**

This project was based on a study protocol that defined the exact procedures to be used. It included a relatively large number of persons and was not based on individual cases ("method-driven search for generalizable knowledge", defined as research by HRA). Female dancers ("persons"), between 19-25 years old, suffering from chronic knee pain, were randomly assigned to take ballet lessons with or without a mirror. This study investigated the effect of using a mirror on the dancers' balance ("research concerning function of the human body").

##### **Handelt es sich bei dem Forschungsprojekt um ein Projekt mit lebenden Personen?**

Ja

##### **BECAUSE**

This study included female dancers ("persons") suffering from chronic knee pain.

**Handelt es sich bei dem Forschungsprojekt um einen klinischen Versuch im Sinne der KlinV oder der KlinV-Mep?**

Ja

**BECAUSE**

The investigator randomly assigned ("prospectively assigned") female dancers suffering from chronic knee pain to receive physiotherapy either with or without a mirror. The study assessed between-groups difference via the Balance Error Scoring System ("to investigate its effect on health"). The purpose was to increase our understanding of the use of mirrors during rehabilitation, as a tool to improve stability ("therapeutic measure").

**Wird in der Studie ein Arzneimittel (einschliesslich Kombinationen nach Art. 2 Abs. 1 Bst. f und g Medizinprodukteverordnung (MepV) vom 1. Juli 2020) untersucht?**

Nein

**BECAUSE**

**Wird in der Studie ein Medizinprodukt (In-vitro-Diagnostika ausgenommen) oder ein anderes Produkt nach Artikel 1 der Medizinprodukteverordnung (MepV) (Stand am 26. Mai 2022) untersucht?**

Nein

**BECAUSE**

**Wird in der Studie eine Intervention untersucht, die weder ein Heilmittel oder ein Transplantatprodukt, noch ein Produkt nach Art. 2a Abs. 2 Heilmittelgesetz (HMG) (Stand ab 26. Mai 2021) oder eine Transplantation ist?**

Ja

**BECAUSE**

The investigator randomly assigned ("prospectively assigned") female dancers suffering from chronic knee pain to receive physiotherapy either with or without a mirror. A mirror is not a medicinal product or device, a transplant or transplant product, a gene therapy, or a pathogenic organism.

**Wird in der Studie eine Gentherapie oder ein pathogener Organismus untersucht?**

Nein

**BECAUSE**

**Ist die Intervention mit höchstens minimalen Risiken und Belastungen für die Teilnehmenden verbunden?**

Ja

**BECAUSE**

The investigator randomly assigned ("prospectively assigned") female dancers suffering from chronic knee pain to receive physiotherapy either with or without a mirror. The study assessed between-groups difference via the Balance Error Scoring System ("to investigate structure and function on the human body"). Dancing in front of a mirror creates minimal risk or stress in participants.