INTRODUCTION

Review question / Objective: Does music counteract mental fatigue?

Condition being studied: The condition being studied: mental fatigue is defined as a psychological state caused by prolonged cognitive demands. Also, mental fatigue presents subjective feelings of “tiredness” and “lack of energy” and impairs several aspects of daily life. Music: music is an easy and feasible approach for acquisition and is widely applied in both physiology and psychological medication to promote recovery. Previously evidence suggested that relaxing music and self-selected music help in counteracting mental fatigue.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 May 2022 and was last updated on 27 May 2022 (registration number INPLASY202250150).
However, lacking a systematic review on the synthesis effect of music on counteracting mental fatigue.

**METHODS**

**Participant or population:** We set no restrictions on the participants except for excluded illness and disease patients.

**Intervention:** We set no restrictions on the type of music, such as self-selected music or relaxing music.

**Comparator:** Without music intervention and mental fatigue induced in the experimental.

**Study designs to be included:** RCTs, nRCTs, nRnCTs

**Eligibility criteria:** 1. mental fatigue induced should be evident existed. 2. music should be as the intervention regardless of the type and duration of the music such as relaxing music, or self-selective music. 3. comparison: without music intervention.

**Information sources:** web of science, PubMed, EBSCOhost (SPORTDiscus and Psychology and behavior sciences collection), Scopus, Google scholar.

**Main outcome(s):** 1. subjective feeling and objective index of mental fatigue level. 2. the cognitive or behavioral performance which is measured. These indexes could synthesize the effect of music on counteracting mental fatigue and bring beneficial implications to daily life.

**Quality assessment / Risk of bias analysis:** PEDroscale(www.pedro.org.au).

**Strategy of data synthesis:** All data about the effect of music on the mental fatigue will be synthesized.

**Subgroup analysis:** type of music, duration of music intervention, mental fatigue level, cognitive or behavior performance. Characteristic of population, study design.

**Sensitivity analysis:** None.

**Language:** No restriction.

**Country(ies) involved:** China and Malaysia.

**Keywords:** music; mental fatigue.

**Contributions of each author:**
Author 1 - Ding Cong. Email: gs60917@student.upm.edu.my
Author 2 - Soh Kim Geok. Email: kims@upm.edu.my
Author 3 - Sun He. Email: verson.upm@gmail.com