



## Service Priorities and Programmes Electronic Presentations

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### **High intensity interval training(HIIT)–alternative for psychiatric physical rehab**

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#### **Introduction**

American College of Sports Medicine(ACSM) reported HIIT will be the leading fitness exercise mode in 2018 worldwide. Evidence revealed HIIT may benefit physical and mental health for schizophrenia and substance-use disorder patients.

In Tai Po Hospital, HIIT with modified 7-minute workout was introduced to Physiotherapy department for psychiatric physical rehab from August 2017. For patients cannot fully complied with traditional aerobic and resistance exercises, HIIT served as an alternative in selected cases. Our HIIT consists of 10 exercises, each with 30 seconds work-out and 15 seconds rest. With multiple exercise, short time span and small class size, HIIT may attract patients more.

#### **Objectives**

To evaluate the effectiveness of HIIT in psychiatric physical rehab.

#### **Methodology**

Medical records for psychiatric patients who joined PT gym in December 2017(HIIT group) and May 2017(traditional group) were reviewed. For HIIT group, only HIIT class participants were included. For traditional group, cases were selected to match patients' characteristics and baseline with HIIT group.

Physical and mental health changes were evaluated by comparing mean scores before and after program. Physically, sit-and-reach test and hand-grip strength were used to evaluate patients' flexibility and strength respectively. Mentally, Rosenberg Self-Esteem Scale(RSES) and WHO-5 Well-being Index were used to evaluate patients' self-esteem and psychological well-being respectively.

#### **Result**

7 cases were reviewed for HIIT and 8 for traditional group. All patients are male with comparable demographic data. In HIIT group, 35.1±13.8-year-old patients mostly diagnosed with schizophrenia/psychosis attended 11.3±3.7 gym including 7.6±4.4 HIIT sessions. In traditional group, 31.0±7.6-year-old(p=0.476) patients mostly diagnosed with schizophrenia/psychosis(p=0.188) attended 8.5±2.4 gym(p=0.107). Physically, sit-and-reach test in HIIT group improved from 26.5±14.5cm to 29.0±14.0cm(p=0.037) while traditional group changed from 13.8±11.3cm to

13.3±11.0cm(p=0.622). Right hand-grip strength in HIIT group improved from 31.3±6.4kg to 32.8±9.4kg(p=0.549) while traditional group improved from 29.8±12.7kg to 30.9±14.6kg(p=0.706). Mentally, RSES in HIIT group improved from 15.6±5.7 to 17.4±4.8(p=0.021) while traditional group improved from 18.6±4.9 to 20.0±4.7(p=0.218). WHO-5 Well-being Index in HIIT group improved from 12.1±6.4 to 17.1±5.1(p=0.153) while traditional group improved from 16.1±5.2 to 17.6±5.6(p=0.104). With short training period(11.3 sessions), HIIT participants shown statistically significant improvement in self-esteem and body's flexibility while traditional exercise participants clinically improved without statistically significant. To conclude, HIIT may possibly be an alternative for psychiatric physical rehab in improving physical and mental health.