



HKU study reveals yoga improves neurocognitive functions in early psychosis

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Early Psychosis Foundation (EPISO) launches the
FitMind Yoga Campaign

Press Conference
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Speakers

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What is Psychosis?

- The imbalance of chemical substances--Neurotransmitters, which help to transmit information in the brain, leads to psychosis
- Psychosis refers to a set of symptoms that include hallucinations, delusions, and disorganised thoughts and speech
- Psychosis affects up to 3 in 100 people and are a leading cause of disability worldwide
- Psychosis causes many dysfunctions including neurocognitive impairment (e.g. memory and attention), low motivation and social isolation. These deficits are significantly related to poor social functioning in the daily life



Current Treatments for Neurocognitive Impairments: Limited Effects!

▪ Medications:

Useful for relieving clinical symptoms but *less effective* in treating neurocognitive deficits

▪ Cognitive Remediation:

Proved to be effective on attention and verbal memory, but can *hardly be generalised*.



Mind-body Exercise (Yoga)

- Yoga improves sustained attention and verbal memory in healthy people
- Yoga reduces depressive symptoms in major depression patients





Study Objectives



Will yoga be beneficial to early psychosis patients to improve their neurocognitive functions ?

What are the mechanisms behind?



Research Methods

Screening Visit

Screening & Consent
Fulfill inclusion criteria
Patients were given informed consent

Testing Visit

Assessments at baseline (memory, attention, visual-motor coordination, clinical symptoms, brain structures)

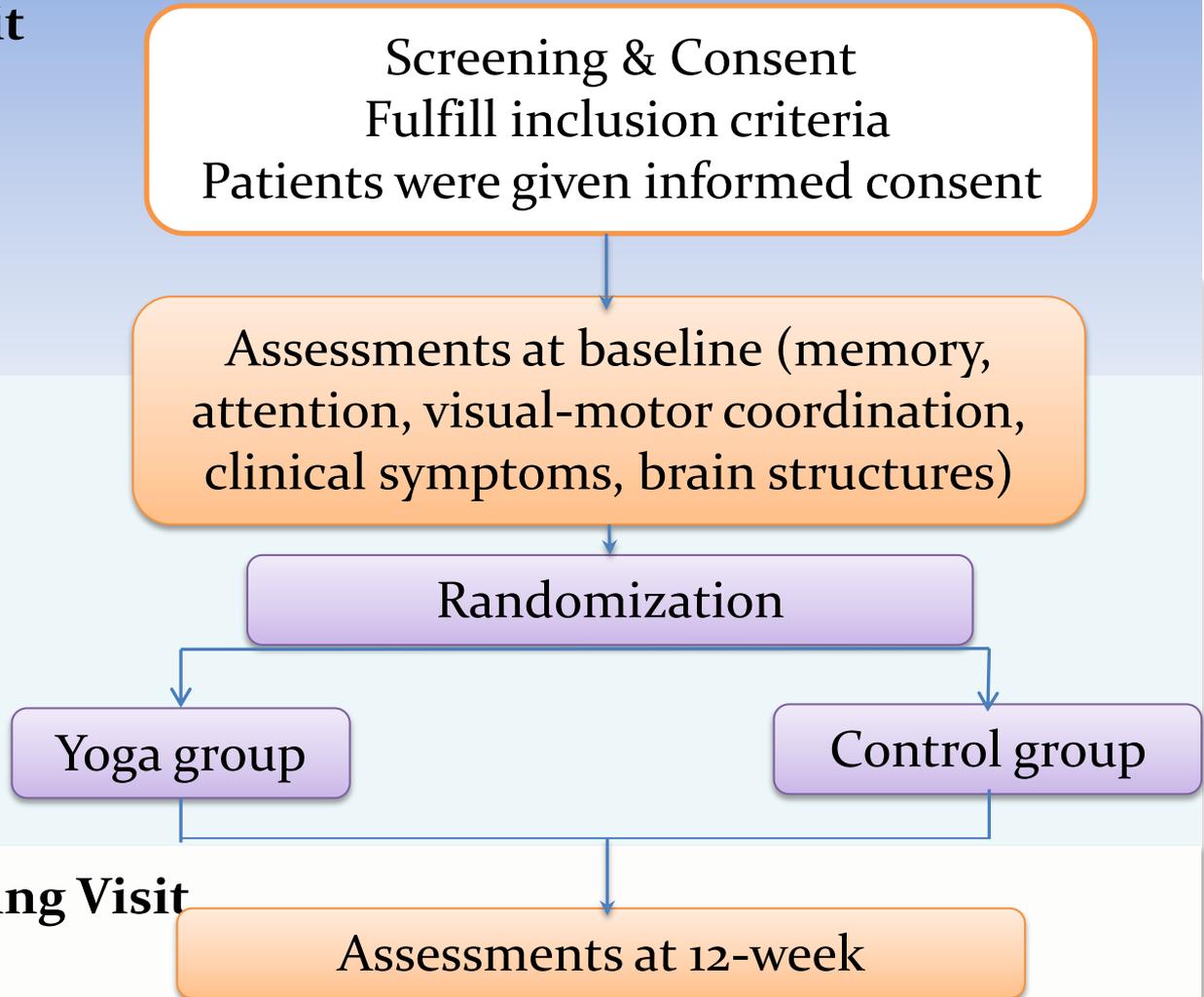
Randomization

Yoga group

Control group

12 weeks Testing Visit

Assessments at 12-week





Research Methods

- **Yoga group:** includes breathing (5 mins), body postures (45 mins), relaxation (2-3 mins). 3 sessions per week, with each session lasting around 1 hour for 12 weeks (total 36 sessions)
- **Control group:** patients only received medication treatment for 12 weeks





Participants Recruitment

- Recruitment started since July 2010 from Early Assessment Service for Young People with Psychosis (EASY), a programme of the Hospital Authority (HA)
- 77 subjects were recruited
- 60 have completed the study



Basic Demographics of Participants

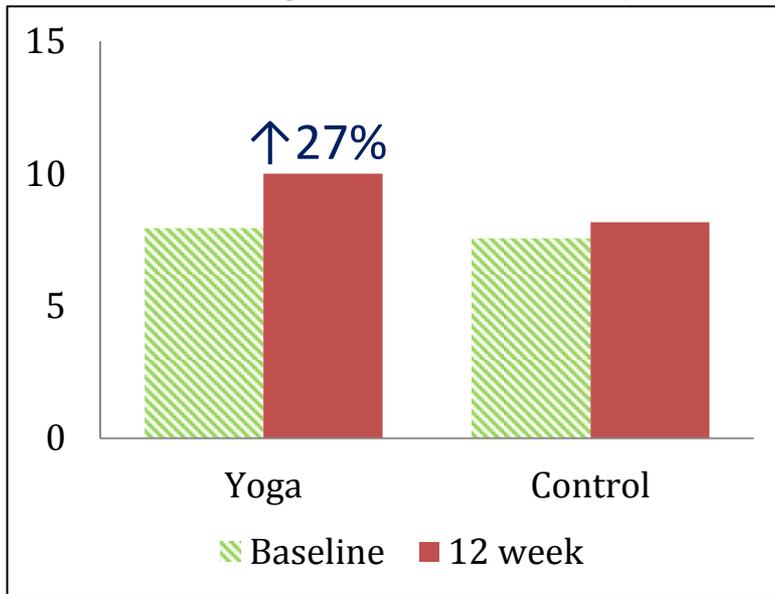
	Yoga (n=29)	Control (n=31)
Age	25.0	25.5
Education (yrs)	12.0	12.5
Duration of illness (yrs)	2.4	1.8

- *There are no significant differences in age, years of education and duration of illness at baseline between the two groups.*

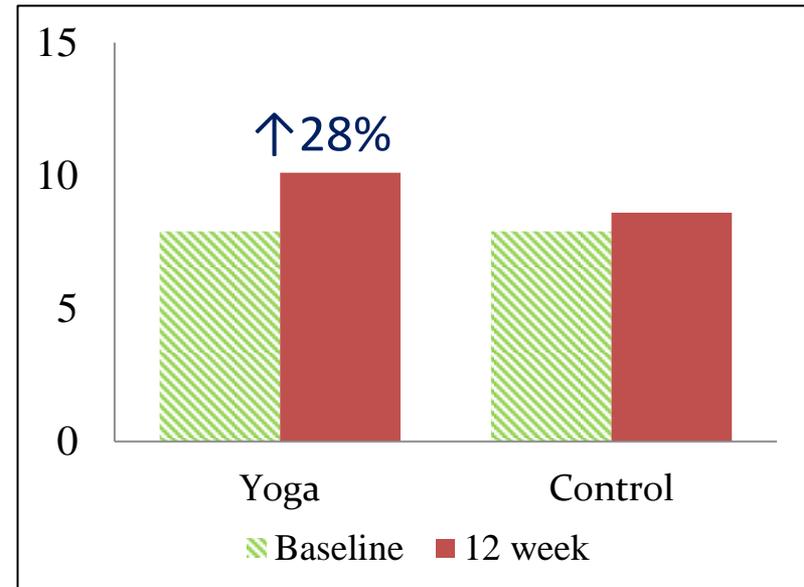


Major Findings: Improvement in Memory

Long-term Memory



Short-term Memory



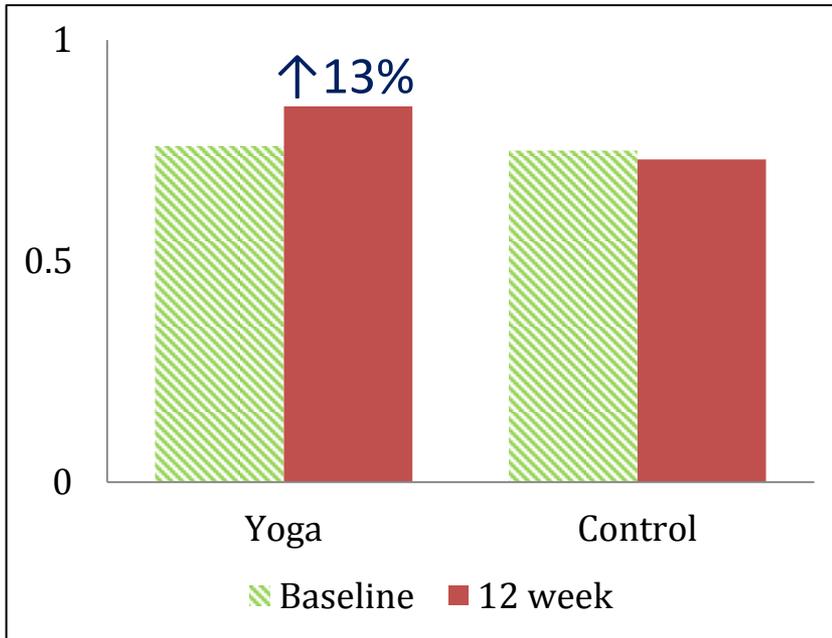
An **increase** in mean score by **27%** (from 7.9 to 10.0 scores) was achieved in long-term memory; and **28% increase** (from 7.9 to 10.1 scores) in short-term memory in yoga group, compared with only **8% increase** (7.6 to 8.2) and **9% increase** (7.9 to 8.6) in the control group respectively

**Note: The full score for long-term and short-term memory is 16, and 14. Ordinary people usually score 13 in long-term memory, and 14 in short-term memory*

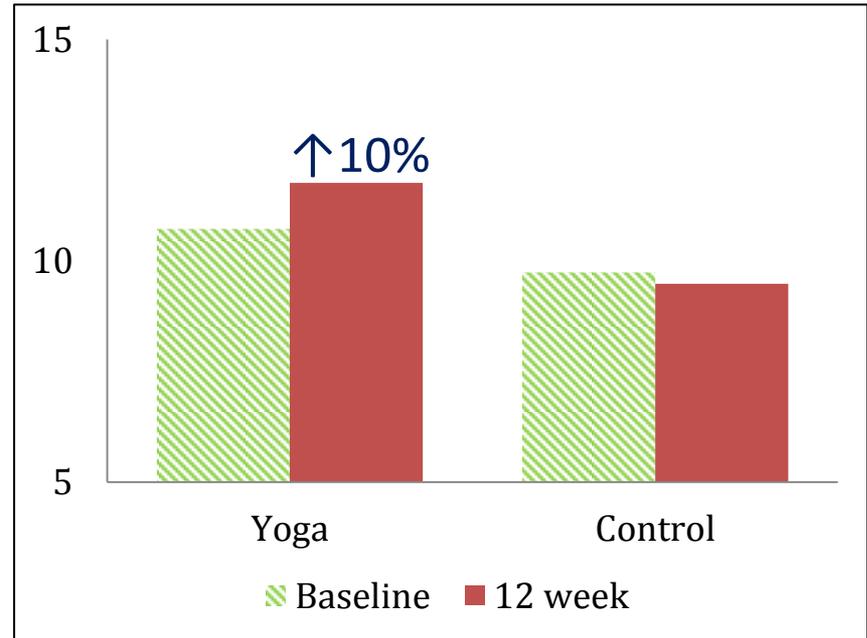


Major Findings: Improvement in Attention and Visual-motor Coordination

Attention



Visual-motor Coordination



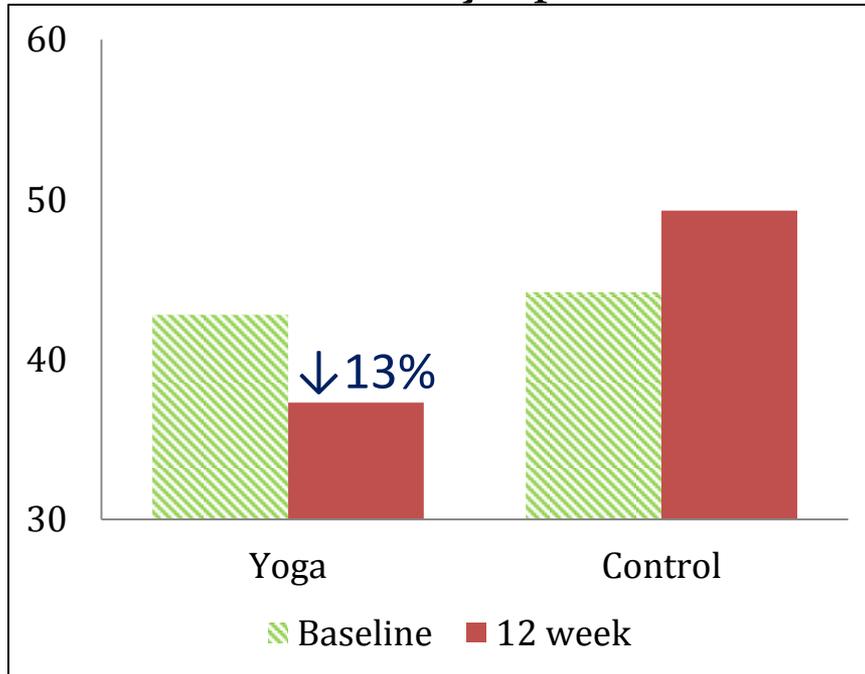
An **increase** in mean score by **13%** (from 0.8 to 0.9 scores) was achieved in attention, and **10%** **increase** (from 10.7 to 11.8 scores) in visual-motor coordination in yoga group, compared with **13%** **decrease** (0.8 to 0.7) and **2% decrease** (9.7 to 9.5) in the control group respectively

**Note: Ordinary people usually score 1.1 in attention and 16 in visual-motor coordination*

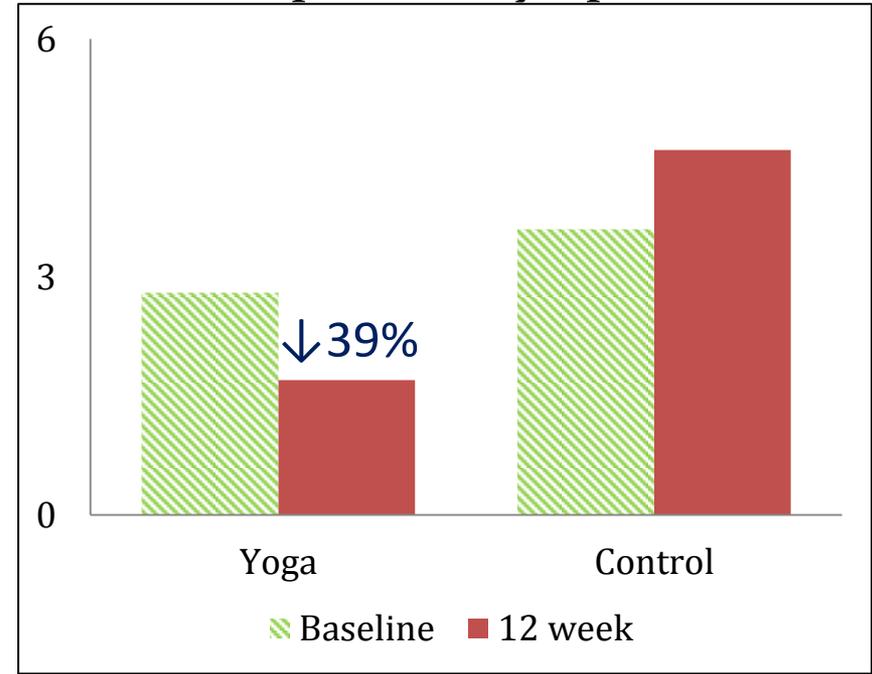


Major Findings: Improvement in Clinical Symptoms

Overall Symptoms



Depressive Symptoms

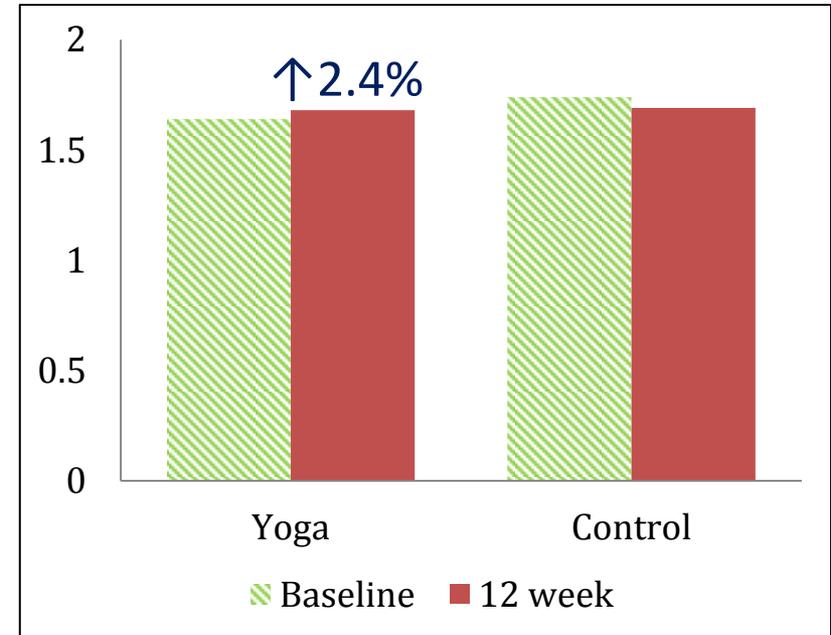
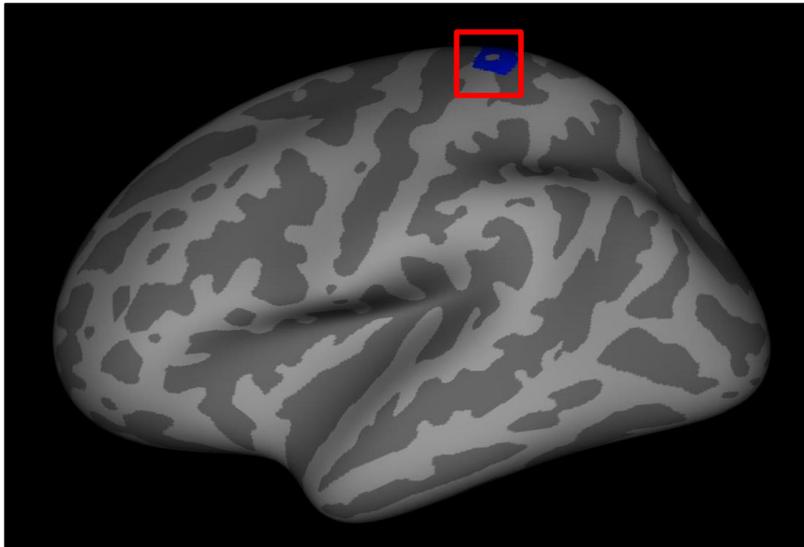


A **decrease** in mean score by **13%** (from 42.8 to 37.3 scores) was achieved in overall symptoms, and **39% decrease** (from 2.8 to 1.7 scores) in depressive symptoms in yoga group, compared with **12% increase** (from 44.2 to 49.3) and **28% increase** (from 3.6 to 4.6) in control group respectively

**Note: The higher scores stand for more severe clinical symptoms and depression.*



Major Findings: Increase in the thickness of Post-central gyrus

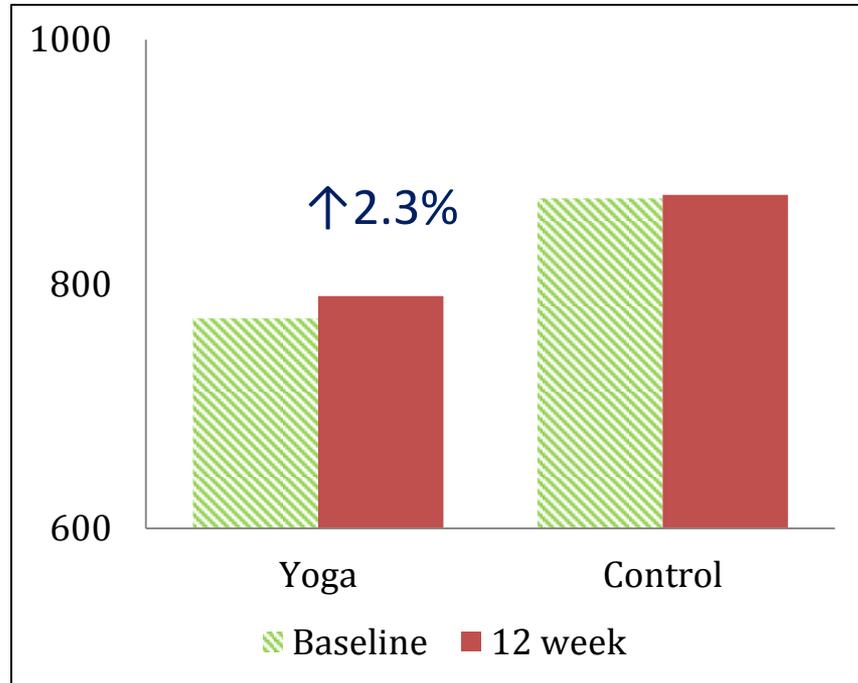
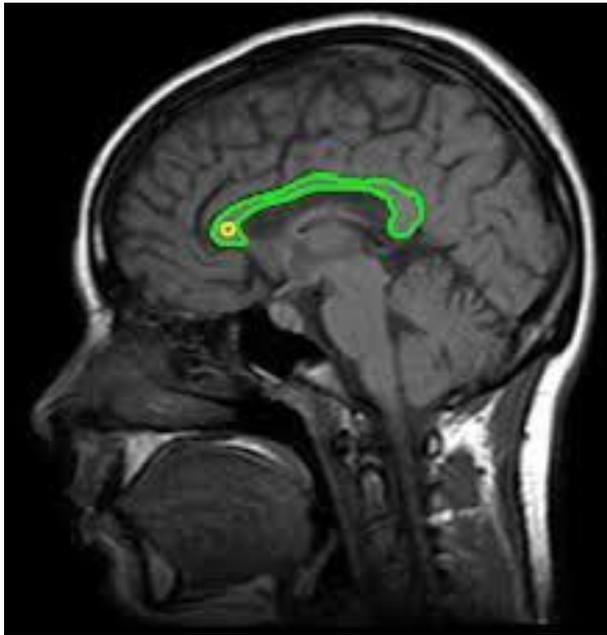


Patients in the yoga group achieved an **increase** in mean score by **2.4%** (from 1.64 to 1.68mm) in the post-central gyrus, compared with **2.8% decrease** (1.74 to 1.69mm) in control group

The somatosensory of patients in yoga group improves more than patients in control group



Major Findings: Increase in the volume of Corpus Callosum



Patients in the yoga group achieved an **increase** in mean score by **2.3%** (from 772 to 790mm³) in corpus callosum volume, compared with only **0.3% increase** (870 to 873mm³) in the control group

The ability of information communication in yoga group improves more than patients in control group



Conclusion

- While medication is ineffective in treating neurocognition in psychosis, yoga is beneficial for memory, attention and visual-motor coordination for early psychosis patients and can serve as an effective supplementary treatment
- According to the research results, yoga improves these neurocognitive functions may be related to the changes in the post-central gyrus and corpus callosum
- Yoga can also improve overall clinical symptoms, and significantly reduce depressive symptoms in the patients



FitMind Yoga Campaign



FitMind



FitMind Yoga

- Developed by the Department of Psychiatry, Li Ka Shing Faculty of Medicine, HKU in collaboration with Early Psychosis Foundation (EPISO)
- Patients with psychosis are vulnerable to side-effects of medication and can easily get tired. Their physical fitness and learning capacity are also lower than people without psychosis
- To facilitate the promotion of yoga among psychosis patients, a set of “FitMind Yoga 23-postures” which is specially selected from Hatha yoga and easy to learn, is tailor-made for them
- Website: <http://fitmind.episo.org/>



FitMind Yoga Campaign

FitMind Is Attitude 3D Photos Exhibition

- Date: From March 11, 2014 to March 16, 2014
- Venue: Times Square, Causeway Bay

FitMind Yoga Mega Fund-raising Event

- Date: April 6, 2014
- Time: 2:00pm
- Venue: Diocesan Boys' School

Free FitMind Yoga Classes for Psychosis Patients Only

- Date: From Mid-March, 2014
- Content: 4-session yoga classes with certificated teacher to establish the basic knowledge of FitMind yoga sequence. Patients completed the class will be awarded a “FitMind yoga 23-postures” DVD for practise at home





Early Psychosis Foundation (EPISO)

- Founded in 2007
- Registered as a charitable institution in 2009
- Consists of experienced professionals, academics (including Professors / Doctors from the Department of Psychiatry of the Li Ka Shing Faculty of Medicine, HKU) and lay members in the field of early psychosis
- To make accessible knowledge and experience gained from research and clinical practice to promote:
 - high-quality early psychosis intervention services
 - professional training
 - public awareness programs
 - Website: www.episo.org



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Early Psychosis Foundation

- Ms Joy Kok

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 - Prof KF So (Dept of Anatomy)
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