

Research Assessment Exercise 2020

Impact Case Study

University: The University of Hong Kong (HKU)

Unit of Assessment (UoA): 03 - Clinical Medicine

Title of case study: Transforming the outcomes and intervention approaches of Psychotic Disorders locally and globally

(1) Summary of the impact

The early intervention program for first episode psychosis (FEP) developed by University of Hong Kong (HKU) researchers in 2001 has improved the functional outcomes and reduced suicide rate of patients leading to policy support from the Hong Kong government in 2017. The public awareness program, following the introduction of the new Chinese name of psychosis in 2001, have improved public knowledge about psychosis and reduced help-seeking delay. The new name was officially adopted in Taiwan in 2014. Our research demonstrating the need for maintenance antipsychotic treatment has informed local and international treatment guidelines [1-6] and led to improved management of FEP.

(2) Underpinning research

Key HKU Department of Psychiatry researchers:

Professor Eric Yu Hai Chen (Head of the Department, 1992-current)

Dr Wing Chung Chang (Clinical Associate Professor, 2010-current)

Dr Sherry Kit Wa Chan (Clinical Assistant Professor, 2009-current)

Dr Edwin Ho Ming Lee (Clinical Assistant Professor, 2011-current)

Dr Christy Hui (Assistant Professor, 2011-current)

Early Detection and improving knowledge of psychosis in Hong Kong

Before the introduction of an early intervention (EI) service, Chen and colleagues demonstrated that the average delay of treatment (duration of untreated psychosis [DUP]) for patients with psychosis in Hong Kong was 513 days and median DUP was 150 days. The average clinician interview time was 5.6 minutes. Based on this data, public awareness programs were designed to enhance public knowledge and reduce stigma of psychosis. This included formulating a new Chinese term for psychosis (Si Jue Shi Tiao, 思覺失調) [3.1] and establishing a full-scale public awareness campaign in association with the development of the EI service. The development of the first hotline referral system in public health service in Hong Kong alongside this campaign also aimed to improve help-seeking delay of patients with psychosis.

Design of a Low-resource Critical Period Intervention and Proving its efficacy

In 2012, Chen and colleagues reported development and implementation of a low-resource EI program (EASY) specifically for patients with first-episode psychosis (FEP) in Hong Kong [3.2]. This was adopted as a territory-wide service in Hong Kong in 2001. This was a 2-year phase-specific case management service for patients with FEP, aged 15-25. The service provided pharmacological and psychosocial intervention. Apart from psychiatrist, each patient had a named case manager to coordinate the care. The ratio of case manager to patient was 1:100. The HKU researchers found that the EI program improved the 3-year clinical and functional outcomes (significant higher rate of full-time employment among EI patients [EI]=64.3%, standard care [SC]=48.4%), reduced suicide and hospitalization rates in young patients (Grant 1). Some of the positive effects including functioning and suicide prevention remains at 10-year follow-up [3.3] (Grant 2).

A randomised controlled trial (RCT) exploring the effect of one more year of service to the existing two-year EI service and found that functioning of patients can be further improved (measured with Social and Occupational Functioning Assessment Scale $p < 0.001$) [3.4] (Grant 3). In 2009, Chen and colleagues spearheaded an EI service for adults patients over 25 years old (JCEP program) (Grant 4).

Improvement of outcomes of patients with psychosis

To further improve the outcomes, Chen and his team conducted the only double blind RCTs worldwide on the effect of maintenance treatment on relapse in remitted FEP patients. Their research showed that up to 80% of patients relapsed following medication discontinuation [3.5] (Grant 5). This study provided evidence to support the need for maintenance antipsychotic treatment after remission of psychotic symptoms for one year and found that physical exercise can improve cognitive function substantially in patients with psychosis [3.6]. The research showed that both yoga and aerobic exercise groups demonstrated significant improvements in working memory ($P < 0.01$) with moderate to large effect sizes compared with the waitlist control group. The yoga group showed additional benefits in verbal acquisition ($P < 0.01$) and attention ($P = 0.01$). Both types of exercise improved overall and depressive symptoms (all $P \leq 0.01$) after 12 weeks.

(3) References to the research

- 3.1 Chiu CP, Lam MM, Chan SK, Chung DW, Hung SF, Tang JY, Wong GH, Hui CL, Chen EY. Naming psychosis: the Hong Kong experience. Early Intervention in Psychiatry. 2010; 4(4): 270-4. DOI: [10.1111/j.1751-7893.2010.00203.x](https://doi.org/10.1111/j.1751-7893.2010.00203.x)
- 3.2 Wong GHY, Hui CLM, Tang YM, Chang WC, Chan KW, Xu J, Lin J, Lai CDC, Tam WWY, Kok J, Chung D, Hung SF, Chen EYH. Early intervention for psychotic disorders: real-life implementation in Hong Kong. Asian Journal of Psychiatry. 2012; 5(1): 68-72. DOI: [10.1016/j.ajp.2012.01.001](https://doi.org/10.1016/j.ajp.2012.01.001)
- 3.3 Chan SKW, So HC, Hui CLM, Chang WC, Lee EHM, Chung DWS, Tso S, Hung SF, Yip KC, Dunn E, Che EYH. 10-year outcome study of an early intervention program for psychosis compared with standard care service. Psychological Medicine. 2015; 45(6): 1181-93. DOI: [10.1017/S0033291714002220](https://doi.org/10.1017/S0033291714002220)
- 3.4 Chang WC, Chan GHK, Jim OTT, Lau ESK, Hui CLM, Chan SKW, Lee EHM, Chen EYH. Optimal duration of an early intervention programme for first-episode psychosis: randomised controlled trial, The British Journal of Psychiatry. 2015; 206(6): 492-500. DOI: [10.1192/bjp.bp.114.150144](https://doi.org/10.1192/bjp.bp.114.150144)
- 3.5 Chen EYH, Hui CLM, Lam MML, Chiu CPY, Law CW, Chung DWS, Tso S, Pang EPF, Chan KT, Wong YC, Mo FYM, Chan KPM, Yao TJ, Hung SF, Honer WG. Maintenance treatment with quetiapine versus discontinuation after one year of treatment in patients with remitted first episode psychosis: randomised controlled trial. British Medical Journal. 2010; 341: C4024. DOI: [10.1136/bmj.c4024](https://doi.org/10.1136/bmj.c4024)
- 3.6 Lin J, Chan SKW, Lee EHM, Chang WC, Tse M, Su WW, Sham P, Hui CLM, Joe G, Chan CLW, Khong PL, So KF, Honer WG, Chen EYH. Aerobic exercise and yoga improve neurocognitive function in women with early psychosis. NPJ Schizophrenia. 2015; 1(0):15047. DOI: [10.1038/npjischz.2015.47](https://doi.org/10.1038/npjischz.2015.47)

Grants:

1. Outcome of an early intervention programme for psychosis (EASY): a case-controlled study, Health and Health Services Research Fund – Full Grants (2005-7) HK\$646K PI: Professor Eric Yu Hai Chen
2. A 10-year outcome study of an early Intervention program for psychosis in Hong Kong (EASY) compare with standard care service. Commissioned Research on Mental Health Policy and Services, Health and Health Service Research Grant, Health Bureau (2010-12) HK\$785K PI: Dr Sherry Kit Wa Chan
3. Community case management for early psychosis: is two year an optimal duration? A randomized controlled study (SMH-29): Commissioned Research on Mental Health Policy and Services (2010-12) HK\$1M PI: Professor Eric Yu Hai Chen
4. Early Psychosis Project (EP-25), Outcome of stage- specific early intervention for psychosis in

Hong Kong: A randomized controlled study: The Trustees of the Hong Kong Jockey Club Charities Trust (2008-15) HK\$69M PI: Professor Eric Yu Hai Chen

5. Duration of maintenance anti-psychotic therapy after first-episode schizophrenia: a double-blind randomized placebo-control relapse prevention study: General Research Fund (2005-7) HK\$287K PI: Professor Eric Yu Hai Chen

(4) Details of the impact

Impacts include: health and welfare; public policy and services; economic, society culture and creativity, economy

Main beneficiaries include: patients, public, service providers, international guideline bodies, NGOs

Impact on Health and welfare

The Hong Kong Mental Health Morbidity Survey indicated that the weighted prevalence of psychotic disorders in Hong Kong was 2.5%. In 2018, we demonstrated that the EASY has significantly improved the short-term and long-term outcomes of patients with psychosis, including better occupational functioning and less hospitalization, reduction of suicide rate over 12 years (reduced from 7.5% of the SC group to 4.4% of the EI group) [A]. This provides strong evidence of the impact of EI service on the health of patients with psychosis. Relapse prevention is one of the key components to improve outcomes of patients with psychosis. Research on the importance of keeping maintenance antipsychotic treatment after remitting from the FEP for one year has been cited in different international treatment guidelines to support the continuation of the antipsychotic treatment after one year of remission to prevent relapse. These include 2014 NICE guideline in the United Kingdom and 2016 Australian clinical guideline for early psychosis [Bi & ii]. It has also been used to support 2014 Hong Kong clinical management consensus [C]. This important finding provides evidence that fills the gaps in advising over the maintenance therapy in existing treatment guidelines.

Impact on Practitioners and services

The EI program and the JCEP project developed interventional approach for health care worker to improve the outcomes of patients with early psychosis. Training has been provided to social workers. A manual has been developed by the Non-Government Organization (NGO) for the social workers based on the intervention [Hi]. A total of 761 copies of the manual have been sold or distributed (reported by Caritas, an NGO in Hong Kong). With further funding from the government in support of the EI program, the number of case managers (mental health nurses) working in the EI program increased from 36 in 2013 to a maximum of 45 in 2019. [Hii]. In addition, the FitMind program reached in excess of 8500 people from 2014 to 2018 [Ii]. It has also been incorporated into routines in 4 Hospitals in Hong Kong, which are Queen Mary Hospital, Pamela Youde Nethersole Eastern Hospital, Kowloon Hospital and Kwai Chung Hospital [Iii].

Impact on public policy and services and economy

The EI service has greatly changed the public mental health service provision to patients with psychosis in Hong Kong. It has had direct impact on the service provision and public policy. Since the start of the service, the time to access the public psychiatric service (EI service) for adult patients has been shortened by half (180 days to 93 days) [F]. Our research has demonstrated the effectiveness of the service in improving the outcomes of the patients with psychosis. EASY patients also showed superior results in average cost per unit improvement in symptom score. With this evidence, the government of Hong Kong in its first Mental Health Review Report published in 2017 acknowledged the effectiveness and the important role of EI service and suggested further enhancement of the service to benefit wider population [G].

Impact on Society, culture and creativity

The novel Chinese name for psychosis (思覺失調, Si-jue-shi-tiao which means dysregulation of thoughts and perception) has been successfully adopted by the public in Hong Kong. It covered a broader aspect of psychosis, compared with the original term, 'jing-shen-fen-lie' (精神分裂), which

gave a negative stereotype as a ‘mental split-mind disorder’. Beyond Hong Kong, this term has been adopted by Taiwan officially as Chinese translation of schizophrenia in 2014 [D]. From the search result in Google search engine using the keyword “思覺失調”, 3230 and 20500 pieces of news reported in Hong Kong and Taiwan respectively during the period from 1 Oct 2013 to 30 Sep 2019 were found, while only 30 and 991 pieces of news reported in Hong Kong and Taiwan respectively during the period from 1 Oct 2007 to 30 Sep 2013 were found suggesting the term has been well adopted by the society [J]. Another anti-stigma campaign of the JCEP program (2009-2015) that has successfully reached more than 1 million populations in HK through public talks, exhibition and training workshops. Population based survey before and after the project showed a significant improvement in public understanding about psychosis [E].

(5) Sources to corroborate the impact

- [A] Chan SKW, Chan SWY, Pang HH, Yan KK, Hui CLM, Chang WC, Lee EHM, Chen EYH. Association of an Early Intervention Service for Psychosis With Suicide Rate Among Patients With First-Episode Schizophrenia-Spectrum Disorders. JAMA Psychiatry. 2018; 75(5): 458-464. doi:10.1001/jamapsychiatry.2018.0185
- [B] International treatment guidelines
- i) Psychosis and schizophrenia in adults (2014) NICE guideline CG178 (Page 38)
 - ii) Australian Clinical Guidelines for Early Psychosis (2016) (Page 72)
- [C] Mak KY, Lo WT, Yeung WS, Wong M, Chung WS, Chui E, Tam KL, Hui LK, Mui J, Chan OW, Wong KL. Consensus statements on adherence issues in schizophrenia for Hong Kong. Asian J Psychiatr. 2014 Dec;12:163-9. DOI: 10.1016/j.ajp.2014.06.018 (Page 163, 164, 168)
- [D] The new Chinese term of psychosis being adopted in Taiwan officially as the Chinese translation of Schizophrenia in 2014. 您知道嗎? 「精神分裂症」已經更名為「思覺失調症」. 中華民國衛生福利部. 2014-06-24 [2016-11-30]. (原始內容存檔於 2016-08-17)
- [E] Chan KWS, Lee KW, Hui CLM, Chang WC, Lee EHM, Chen EYH. Gender effect on public stigma changes towards psychosis in the Hong Kong Chinese population: a comparison between population surveys of 2009 and 2014. Social Psychiatry and Psychiatric Epidemiology. 2017; 52(3): 259-267. doi:10.1007/s00127-016-1317-1
- [F] Chan KWS, Chau EHS, Hui CLM, Chang WC, Lee WHM, Chen EYH. Long term effect of early intervention (EI) service on duration of untreated psychosis (DUP) in youth and adult population in Hong Kong. Early Intervention in Psychiatry. 2018; 12(3): 331-338. doi:10.1111/eip.12313
- [G] Mental Health Review Report Hong Kong 2017 (Pages 21, 31, 66, 110, 122, 123, 133, 135)
- [H] i) 跟我們走一趟 . 思覺旅程(思覺健康服務—社會工作實務手冊) 香港明愛青少年及社區服務 (ISBN: 978-988-13433-0-7) published January 2015 Copy 1000 (Description of JCEP project Pages 7-8)
- ii) Email from HA about the number of case managers working in the EI program
- [I] i) Early Psychosis Foundation Annual Report 2014/15, 2015/16 and 2016/17
- ii) Email from HA about incorporating FitMind into HA hospitals
- [J] Google search result on the keyword 「思覺失調」, Date of review: 2 Oct 2019