

MEDIA RELEASE

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1 in 43 people in Singapore had a diagnosis of schizophrenia or other psychotic disorders in their lifetime

1. The lifetime prevalence of schizophrenia and other psychotic disorders in Singapore was 2.3%. Of this, about one third of the population (0.86% or 1 in 116 persons) had a diagnosis of schizophrenia at some point in their lives. This makes schizophrenia the most common among psychotic disorders here. While the treatment gap of schizophrenia and other psychotic disorders was relatively small, with about 80% of the individuals affected having sought help for their symptoms, the severe nature of these disorders, especially schizophrenia, emphasises the need for continued outreach and early diagnosis and treatment. *[Please see Annex A for a description of the disorders].*
2. These findings were from the first nationwide study to examine the prevalence of schizophrenia and other psychotic disorders in the Singapore resident population aged 18 years and above, their associated factors, and the treatment gap of the disorders. It was part of the second Singapore Mental Health Study (SMHS) initiated in 2016, which was led by the Institute of Mental Health (IMH) in collaboration with the Ministry of Health (MOH) and Nanyang Technological University (NTU), and funded by MOH and Temasek Foundation.
3. The study on schizophrenia and other psychotic disorders was conducted in two phases. Phase 1 involved face-to-face interviews with 6,126 participants representing the general population between 2016 and 2018. A psychosis screen¹ was administered to all the participants to identify those likely to meet the criteria for formal diagnosis of schizophrenia and other psychotic disorders. This screen asked whether the participant has ever experienced any of these six symptoms: visual hallucinations, auditory hallucinations, thought insertion, thought control, delusions of reference, and delusions of persecution, with yes–no response options. A total of 326 participants reported having experienced at least one of the symptoms. They were asked to describe the instances of the symptoms and to provide what they believed to be the cause of the experience. The verbatim records of these 326 participants were reviewed by two of the researchers independently. Among them, 127 who were assessed to be probable cases of psychosis were invited for Phase 2 of the study. An additional 127 participants were randomly selected from the pool of people who were screened negative for psychosis as matched “controls.”

¹ The psychosis screen is part of the Composite International Diagnostic Interview version 3.0 (CIDI 3.0).

4. Phase 2 of the study comprised clinical interviews. Four experienced psychiatrists and one medically trained researcher who were blind to the Phase 1 diagnosis of the respondents conducted the second phase, face-to-face interviews. These clinical assessments included collecting detailed information on the respondents' personal, medical, and psychiatric history in order to arrive at a diagnosis based on the fourth edition of the Diagnostic and Statistical Manual of Mental (DSM) Disorders criteria².
5. **The key findings of this study are:**
 - After Phase 2 clinical reappraisal interviews, the prevalence of schizophrenia and other psychotic disorders was 2.3% in Singapore's population. The prevalence of schizophrenia was 0.86% while that of any other psychotic disorder was 1.44%.
 - The prevalence of psychotic symptoms³ based on endorsement of at least one of the six symptom questions from the CIDI 3.0 screener was 5.2% (n = 326). The most frequently endorsed symptoms in the population were visual hallucinations (3.3%), followed by auditory hallucinations (2.4%), persecutory delusions (0.3%), and telepathic powers⁴ (0.3%).
 - Individuals with schizophrenia and other psychotic disorders were 4.3 times more likely to be unemployed. They were also more likely to have lower household income than those without the disorders. However, as this was a cross-sectional study, it is not possible to establish causality.
 - The average age of onset of schizophrenia and other psychotic disorders was 23.1 years.
 - Majority of people (72.8%) with schizophrenia and other psychotic disorders had at least one chronic physical disorder. Individuals with schizophrenia and other psychotic disorders were significantly associated with diabetes, and are 5.4 times more likely to have diabetes than those without the disorders.
 - The treatment gap among those with schizophrenia and other psychotic disorders was low, with 80.4% of them having sought help for their symptoms.
6. Prof. Chong Siow Ann, Senior Consultant, Research Division and Department of Psychosis at IMH and principal investigator of the study, said: "This is a landmark study as it is the first to establish the prevalence of schizophrenia and related psychosis in the general population of Singapore and was a particularly challenging and labour intensive research which also involved trained psychiatrists doing clinical assessment in the homes of respondents. Although this group of related disorders is not as common as other mental disorders, the extent of impairment and disabilities as well as deaths can be considerably more. It is therefore important that we should identify the factors associated with these disorders – which this study has done – that help in alleviating the burden of these disorders. The publication of this study is a timely

² Diagnostic and Statistical Manual of Mental (DSM) Disorders, fourth edition is a set of criteria used to clinically diagnose psychiatric conditions.

³ Reporting any of the psychotic symptoms does not mean the respondent has a psychotic disorder. The diagnosis is only determined after Phase 2 of study.

⁴ Telepathic powers fall under the category of "delusions of reference"

reminder as we commemorate World Schizophrenia Day on 24 May, that early detection and intervention can make a big difference in relieving the distress and suffering of the tens of thousands of people afflicted and will be afflicted with these disorders.

7. Dr Mythily Subramaniam, Assistant Chairman Medical Board, Research, IMH and Associate Professor, Saw Swee Hock School of Public Health, said: “Our study found a significant association between psychotic disorders and unemployment which emphasises the need for intensive vocational training and employment support for this population.”
8. Dr Charmaine Tang, Chief of Department of Psychosis, said: “Early intervention is important and this is why the Early Psychosis Intervention Programme (EPIP) at IMH has been working closely with community partners, including general practitioners and social service agencies, to identify the onset of psychosis in individuals. This helps to reduce the duration of untreated psychosis and lead to better long-term prognosis. For youths experiencing mental health distress, the Community Health Assessment Team (CHAT) can provide a mental health assessment, and referrals to IMH or other restructured hospitals for further assessment and intervention, if required.”
9. “While schizophrenia and psychotic disorders are serious and chronic conditions, medications and psychosocial therapy can help people manage these conditions, recover, and lead normal, fulfilling lives. Antipsychotic medications are the cornerstone of treatment and help to control psychotic symptoms by regulating brain neurotransmitters. In the stable phase of the illness, psychosocial interventions in the form of individual and family therapy, social skills training, and vocational rehabilitation and supported employment are important and can help the person living with schizophrenia to recover their independence and lead a normal life. The love and support of family and friends play a big role in this too,” she adds.

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About the Institute of Mental Health (IMH)

The Institute of Mental Health (IMH), a member of the National Healthcare Group, is the only tertiary psychiatric care institution in Singapore. Located on the sprawling 23-hectare campus of Buangkok Green Medical Park in the north-eastern part of Singapore, IMH offers a multidisciplinary and comprehensive range of psychiatric, rehabilitative and therapy services in hospital-based and community-based settings. The 2000-bedded hospital aims to meet the needs of three groups of patients – children and adolescents (aged below 19 years), adults and the elderly. Besides providing clinical services, IMH also leads in mental health research and training the next generation of mental health professionals in Singapore. For more information, please visit www.imh.com.sg.

Annex A

DESCRIPTION OF MENTAL DISORDERS AND KEY TERMS

Schizophrenia and other psychotic disorders: Psychotic disorders comprise a heterogeneous group of disorders including schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder and substance-induced psychotic disorder. These disorders are characterised by delusions (fixed or unshaken belief in something that is not true), hallucinations (sensations that are not real, examples include seeing things that are not there, hearing voices or other sounds, experiencing body sensations like crawling feelings on the skin etc.), disorganised thoughts (disordered or confused thinking, where speech may be difficult to follow with no logical connection), and abnormal motor behaviour (includes inappropriate or bizarre posture, or a complete lack of response to instructions).

Schizophrenia, in particular, is one of the most severe mental disorders. While there is no curative treatment for schizophrenia, medications and psychosocial therapy can help people with schizophrenia manage the condition, so that they can continue to lead productive and fulfilling lives.

Lifetime Prevalence: Prevalence of any disorder is the proportion of people affected with that disorder in a given population at a specific time. Lifetime prevalence is the number of people in a population that have had the disorder at any time in their life, divided by the total number of individuals in the population at the time of assessment. It estimates the extent of a disorder within a population over a certain period of time. For example, if there are 100,000 individuals in the population in the year 1999 and of these, 230 have had a disorder at any time in their lives, then the lifetime prevalence of the disorder in that population in that year = $(230/100,000) \times 100\% = 0.23\%$.

Treatment Gap: Treatment gap is the proportion of people who have a disorder but did not receive treatment for it.

Annex B

CHINESE TRANSLATION

Prof. Chong Siow Ann Senior Consultant, Research Division and Department of Psychosis Institute of Mental Health	莊紹安教授 研究部及錯亂症治療科高級專科顧問 心理衛生學院
Dr Mythily Subramaniam Assistant Chairman Medical Board, Research Institute of Mental Health	麥蒂麗蘇巴瑪寧醫生 醫療委員會副主席(研究) 心理衛生學院
Dr Charmaine Tang Chief of Department of Psychosis Institute of Mental Health	鄧鈺錚醫生 精神錯亂科部門主任
Early Psychosis Intervention Programme (EPIP)	初期錯亂症治療科計劃
Community Health Assessment Team (CHAT)	社區心理健康評估團隊
Schizophrenia	精神分裂症
Psychotic Disorders	錯亂症

Annex C

RESEARCHERS INVOLVED IN SMHS 2016

Principal Investigator:

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Co-Principal Investigator:

- A/Prof Mythily Subramaniam, Institute of Mental Health

Co-Investigators:

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- Ms Janhavi Vaingankar, Institute of Mental Health
- Dr Edimansyah Abdin, Institute of Mental Health
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- Ms Shazana Binte Mohamed Shahwan, Institute of Mental Health
- Ms Anitha Jeyagurunathan, Institute of Mental Health
- Ms Saleha Binte Shafie, Institute of Mental Health
- Professor Kwok Kian Woon, Nanyang Technological University
- Dr Lyn James, Ministry of Health