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# THE HONG KONG 香港醫訊 MEDICAL DIARY

VOL.26 NO.12 December 2021

## Psychiatry



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#### Abbreviations:

SDAM = serotonin dopamine activity modulator    PANSS = Positive and Negative Syndrome Scale    MDD = major depressive disorder  
MADRS = Montgomery-Asberg Depression Rating Scale    ADT = antidepressant    EPS = extrapyramidal symptoms

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For the product's safety, contraindications and side effects or toxic hazards, please refer to package insert. HKOP-REX-202101-001  
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## Contents

### Editorial

- **Editorial** 2  
*Dr Joey SY LEUNG*

### Medical Bulletin

- **Bidirectional Relationship between COVID-19 and Mental Disorders** 4  
*Dr Wing-chung CHANG* CME
- **MCHK CME Programme Self-assessment Questions** 6
- **Mental Health in the Elderly in Hong Kong Amid the COVID-19 Pandemic** 9  
*Dr Charles YC YIP & Dr Lap-kei CHAN*
- **Mental Health of Children and Adolescents during the COVID-19 Pandemic** 13  
*Dr Zoe HS YU*
- **Telemedicine in Psychiatry** 20  
*Dr Sheung-chun CHAN & Dr Chario CHAN*
- **Medical Ethics Considerations on COVID-19 Vaccination in Mentally Incapacitated Persons** 25  
*Mr Justin YC WONG & Dr Jess LM LEUNG*
- **Practice of Mindfulness in Response to Covid-19 Pandemic** 29  
*Dr Elisabeth WY WONG & Dr Joey SY LEUNG*

### Radiology Quiz

- **Radiology Quiz** 16  
*Dr Sonia HY LAM*

### Medical Diary of December 32

### Calendar of Events 33



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## The Cover Shot



### Wake-up call from COVID-19

This photograph depicts 4 butterflies gathering together, enjoying the late afternoon sun, with the sun rays piercing through clusters of dense foliage. The temperature is warm and inviting, seducing friends to get together. All are just so happy that the dark days inside the cocoon are over. They will be able to enjoy the rest of their life cycle in the warm lazy sunny summer afternoons.....until the next cycle begins!

If we apply the setting to our human society, it would seem that we have all been hibernating during the dark days of the COVID pandemic. In places where rules of infection control are well-adhered to, and where vaccination has covered more than 70% of the population, residents may be able to come out of our cocoon and begin to explore societal gatherings. Such metamorphic transformation does require that we, as individuals of a community, each and all contribute to the concerted efforts to overcome the situation..... and life is precious!



**Dr Maurice P LEUNG**  
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## Editorial

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Editor



Dr Joey SY LEUNG

The COVID-19 pandemic stands as an unprecedented challenge that everyone has to face nowadays. The global spread of the illness with significant fatalities, the diversion of health care resources, the imposition of various social distancing measures, and the resultant social and financial implications have all induced a considerable degree of fear in and created tremendous strain on the population at large. Apart from the physical burden, the various psychological impact of the pandemic gradually emerges. It has triggered mental health issues in people without previous mental health problems and aggravated the symptoms in those with pre-existing mental disorders.<sup>1</sup>

In this issue, we are honoured to have psychiatrists from various subspecialties share their expert knowledge on the mental health impact of the pandemic. Prof WC CHUNG has written a succinct review on the bidirectional relationship between COVID-19 and mental disorders. Pre-existing mental illness can be an important risk factor for COVID-19 mortality,<sup>2,3</sup> whereas COVID-19 infection can link to a higher likelihood of psychiatric sequelae both during the acute illness and the recovery phase.<sup>1</sup> Even though lockdown was not implemented in Hong Kong, the various social distancing measures and the cessation of visiting in many elderly homes have already resulted in a surge of loneliness and feeling of fear and isolation, especially amongst the elderly. Dr LK CHAN and Dr Charles YIP have highlighted the impact of COVID-19 in the elderly and their caregivers with reference to the family connection in Chinese culture, and have proposed measures to tackle the stress and improve the social support for our aged population. At the other extreme of ages, the young children and the growing adolescent are also deprived of the many opportunities of social interaction which are essential for their psychosocial development, as schools were closed down during the heavy waves of the pandemic and school life was converted to a “virtual” mode through the internet. The mental health impact of COVID-19 on our pediatric population and the surge in adolescent psychiatric illnesses are discussed in an article written by Dr Zoe YU.

In order to mitigate the risk of infection in the densely populated HK, non-urgent operations were suspended earlier and visiting by community nurses was largely scaled down. Patients may extend their follow-up intervals and get a refill of medications instead of an in-person consultation. Provision of support to our patients in the community thus presents a significant challenge to healthcare management. The moving to cyber connection is seen not only in youth but also in the working class when meetings are held through various conferencing software. Dr SC CHAN and Dr Chario CHAN share with us how telemedicine has been adopted and promoted in the field of Psychiatry and in the integration with other healthcare disciplines, such as providing advice and support on mental issues for those being treated in the Asia World-Expo Community Treatment Facility and the Hong Kong Infection Control Centre.

While the arrival of the COVID-19 vaccines has brought hope to quell the pandemic, vaccine hesitation and refusal have been observed in





our population, particularly among the older adults and those with mental illness, who unfortunately are more vulnerable to COVID-19 infection and stand a higher risk of adverse outcomes. So how can a medical doctor approach and assess the mental capacity of patients with mental disorders with regard to vaccination? Dr Jess LEUNG and Mr Justin WONG have prepared an intriguing article discussing medical ethics considerations on vaccination, shedding insight into how we can boost the vaccination rate and better safeguard mentally incapacitated persons and older adults.

Finally, Dr Elisabeth WONG, a seasoned mindfulness teacher, and I describe how mindfulness can be one of the coping skills in alleviating our stress and enhancing our well-being during the pandemic. Mindfulness facilitates acceptance of difficult and painful experiences, feeling them without judgement and opening ourselves to other possibilities. Despite the availability of COVID-19 vaccines, the emergence of new strains may mean that the pandemic can still linger on for some time. The mindfulness practice may help build up our resilience and better prepare ourselves to face uncertainties.

We would like to express our gratitude to all the contributing authors for their precious time and great effort. Finally, we hope you enjoy reading this issue and stay physically and mentally healthy amidst the pandemic.

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# Bidirectional Relationship between COVID-19 and Mental Disorders

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*This article has been selected by the Editorial Board of the Hong Kong Medical Diary for participants in the CME programme of the Medical Council of Hong Kong (MCHK) to complete the following self-assessment questions in order to be awarded 1 CME credit under the programme upon returning the completed answer sheet to the Federation Secretariat on or before 31 December 2021.*

## INTRODUCTION

The coronavirus disease 2019 (COVID-19) was declared a pandemic by the World Health Organization (WHO) on March 11, 2020.<sup>1</sup> According to WHO, up until August 26, 2021, 213 million confirmed cases of COVID-19 and more than 4 million deaths have been reported.<sup>2</sup> Apart from adverse physical health outcomes, literature has shown that patients suffering from coronavirus infections, including SARS and MERS, experienced various psychiatric consequences such as depressed mood, anxiety symptoms, insomnia as well as an elevated risk of developing post-traumatic stress disorder, and depressive and anxiety disorders.<sup>3</sup> Since the emergence of COVID-19, a growing body of research has been conducted to examine the relationship between COVID-19 and mental health. This article aims to review the following three issues: (1) COVID-19-related outcomes in individuals with pre-existing mental disorders; (2) psychiatric consequences of patients with COVID-19; and (3) the impact of COVID-19 on public mental health.

## ASSOCIATION BETWEEN PRE-EXISTING MENTAL DISORDERS AND COVID-19-RELATED OUTCOMES

Recent meta-analytic reviews have consistently revealed that the presence of any mental disorder was associated with an increased risk of COVID-19 mortality.<sup>4-6</sup> Such heightened mortality rate was primarily observed among patients with pre-existing schizophrenia and other psychoses (termed psychotic disorders henceforth), mood disorders (including bipolar and depressive disorders) and substance use disorders. In particular, psychotic disorders were found to be associated with the highest risk for COVID-19 mortality.<sup>4,5</sup> COVID-19 patients with psychotic disorder exhibited approximately two-fold elevated death rates relative to those without psychotic disorders.<sup>4</sup>

A multitude of factors may contribute to such health disparities experienced by patients with severe mental disorders (which generally refer to psychotic disorders, bipolar disorder, and severe depressive disorder). Firstly, it is known that psychotic disorders and bipolar disorders are associated with markedly

increased risk of physical morbidity and premature mortality, with around 10-15 years of reduction in life expectancy, compared with the general population.<sup>7-9</sup> The majority of excess deaths associated with these disorders are attributable to physical diseases, especially cardiovascular and respiratory diseases.<sup>7,8</sup> Secondly, a number of risk factors for poor COVID-19 outcomes are more frequently observed among patients with severe mental disorders, including obesity, smoking and alcohol use, and socioeconomic disadvantage. Thirdly, evidence has suggested that patients with severe mental disorders, notably psychotic disorders, are more likely to receive inequitable medical care relative to the general population.<sup>10</sup> Fourthly, suboptimal mental states such as the presence of psychotic symptoms, unstable mood and cognitive impairment associated with mental disorders might compromise patients' ability to monitor their physical conditions and to initiate earlier help-seeking for medical treatment. It is also postulated that immune-inflammatory alterations associated with severe mental disorders such as raised cytokine concentrations, autoantibodies, and abnormal counts of leukocyte cell types<sup>11</sup> might result in more severe COVID-19 among these patients.

## PSYCHIATRIC SEQUELAE OF COVID-19

Accumulating data have demonstrated that COVID-19 patients who do not have a previous mental disorder display an increased risk of psychiatric complaints, including post-traumatic stress symptoms, somatisation symptoms, depressive and anxiety symptoms, poor sleep quality and psychological distress.<sup>12</sup> Moreover, a diagnosis of COVID-19 is associated with a raised incidence of first-ever psychiatric diagnoses, with anxiety disorders and depression being the most frequently developed conditions.<sup>12-14</sup> In addition, among those patients with pre-existing mental disorders, COVID-19 may result in worsening psychiatric symptoms.<sup>12</sup> Of note, earlier research found that although most of the patients infected with SARS or MERS recovered without long-term psychiatric consequences, a minority did experience persistent neuropsychiatric symptoms.<sup>3</sup> Owing to the paucity of existing data, further research systematically examining both short-term and long-term psychiatric sequelae among a large cohort of COVID-19 patients is warranted<sup>15</sup> so as to enable subsequent development



of treatment guidelines and provision of mental health care services to adequately address the potentially long-lasting psychiatric manifestations.

## IMPACT OF COVID-19 ON PUBLIC MENTAL HEALTH

COVID-19 outbreak exerts wide-ranging ramifications to society and imposes critical challenges to public mental health. Aside from apprehension of contracting the infection, implementation of a series of drastic public health measures to contain the transmission of coronavirus in the community (e.g., compulsory quarantines, school suspensions, work from home arrangement, the shutdown of non-essential services, etc.), the resultant adverse consequences such as loss of job, financial difficulties and social isolation may substantially affect people's mental health status. A recent review showed increased rates of anxiety, depression and sleep problems in the general population during the COVID-19 pandemic.<sup>16</sup> One recent local community survey further found that 25.4% of the respondents reported deterioration in mental health since the pandemic, with the occurrence of depressive and anxiety symptoms.<sup>17</sup> These recent findings thus highlight an unmet need to properly address the psychological impact from a wider, public health perspective.

## CONCLUSION

There is a bidirectional relationship between COVID-19 and mental disorders. Pre-existing mental disorders, in particular psychotic and bipolar disorders, are an important risk factor for elevated COVID-19 mortality rate. Conversely, COVID-19 patients carry a higher likelihood of experiencing psychiatric sequelae, both during the acute stage and after recovery from the infection. Additionally, the COVID-19 pandemic substantially affects the mental health status of the general population, with an increased incidence of depression, anxiety and sleep problems. Given that individuals with severe mental disorders are particularly at risk for worse COVID-19 outcomes, they should be considered a priority group for vaccination.<sup>18</sup> Mental health service delivery systems should be carefully reviewed and adapted to ensure that patients with mental disorders can receive equitable health care, and continued and optimal psychiatric treatment during the pandemic. An unmet need regarding the negative impact of COVID-19 on public mental health should also be comprehensively evaluated and adequately addressed, perhaps via collaboration between the government and non-governmental organisations with the provision of psychological support and social care services to enhance the prevention of developing persistent psychiatric symptoms and mental disorders. Future research is required to clarify longer-term psychiatric sequelae among recovered COVID-19 patients.

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## MCHK CME Programme Self-assessment Questions

Please read the article entitled "Bidirectional Relationship between COVID-19 and Mental Disorders" by Dr Wing-chung CHANG and complete the following self-assessment questions. Participants in the MCHK CME Programme will be awarded CME credit under the Programme for returning completed answer sheets via fax (2865 0345) or by mail to the Federation Secretariat on or before 31 December 2021. Answers to questions will be provided in the next issue of The Hong Kong Medical Diary.

Questions 1-10: Please answer T (true) or F (false)

1. Pre-existing mental disorder increases the risk of mortality among COVID-19 patients.
2. Among various mental disorders, depressive disorder is associated with the highest mortality risk among COVID-19 patients.
3. COVID-19 patients with pre-existing psychotic disorder have around two times higher mortality risk than those without psychotic disorder.
4. Patients with psychotic or bipolar disorder have markedly elevated risk of physical morbidity and premature mortality relative to the general population.
5. Risk factors of severe COVID-19 such as smoking and alcohol use, obesity and lower socioeconomic status are overrepresented in individuals suffering from severe mental disorders.
6. Delayed help-seeking, inequitable medical care and suboptimal mental state unlikely contribute to worse COVID-19 outcomes among patients with mental disorders.
7. Individuals with severe mental disorders should be considered a priority group for COVID-19 vaccination as they are vulnerable to worse COVID-19 outcomes.
8. Patients with COVID-19 have elevated incidence of most psychiatric diagnoses.
9. Psychiatric sequelae following COVID-19 include increased occurrence of post-traumatic stress and mood symptoms, as well as elevated risk of developing anxiety and depressive disorders.
10. Prevalence of depressive and anxiety symptoms is increased in the general population during COVID-19 pandemic.

## ANSWER SHEET FOR DECEMBER 2021

Please return the completed answer sheet to the Federation Secretariat on or before 31 December 2021 for documentation. 1 CME point will be awarded for answering the MCHK CME programme (for non-specialists) self-assessment questions.

## Bidirectional Relationship between COVID-19 and Mental Disorders

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### Answers to November 2021 Issue

Principles of Emergency Medicine Transport and Practice in the Coronavirus Disease Pandemic

1. **F** 2. **F** 3. **T** 4. **T** 5. **T** 6. **T** 7. **T** 8. **F** 9. **T** 10. **F**

# YOUR FIRST CHOICE

of MDD therapy\*



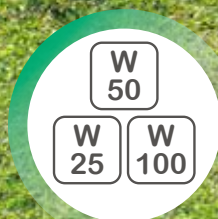
Minimal drug-drug interaction<sup>1,3</sup>



Recommended  
1st line  
treatment in MDD<sup>\*.1</sup>



Well-being and  
functioning  
Improvement<sup>2</sup>



Wide dosing  
range<sup>4</sup>



\* SNRIs, the class of drugs to which Pristiq® belongs, is one of the first-line recommendations for pharmacotherapy for MDD<sup>1</sup>.

MDD = major depressive disorder. SNRI = serotonin and noradrenaline reuptake inhibitor.

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PRISTIQ® ABBREVIATED PACKAGE INSERT

1. TRADE NAME: PRISTIQ® 2. PRESENTATION: 25mg, 50 mg and 100mg Extended-Release tablets 3. INDICATIONS: Treatment of adults with major depressive disorder (MDD) 4. DOSAGE & ADMINISTRATION: 50 mg once daily at approximately the same time, with or without food. The maximum recommended dose in patients with severe renal impairment or end-stage renal disease (ESRD) is 25mg every day or 50 mg every other day. Supplemental doses should not be given to patients after dialysis. The recommended dose in patients with moderate to severe hepatic impairment is 50 mg/day and dose escalation above 100 mg/day is not recommended. The 25mg per day dose is intended for a gradual reduction in dose when discontinuing treatment. 5. CONTRAINDICATIONS: Hypersensitivity to desvenlafaxine succinate, venlafaxine hydrochloride or to any excipients in the Pristiq formulation. Use of MAOIs with Pristiq or within 7 days of stopping treatment of Pristiq. Use of Pristiq within 14 days of stopping a MAOI. Starting PRISTIQ in a patient who is being treated with MAOIs such as linezolid or intravenous methylene blue is also contraindicated because of an increased risk of serotonin syndrome. 6. WARNINGS & PRECAUTIONS: All patients being treated with antidepressants for any indication should be monitored appropriately and observed closely for clinical worsening, suicidality, and unusual changes in behaviour, especially during the initial few months of a course of drug therapy, or at times of dose changes, either increases or decreases. Not approved for use in treating bipolar depression. Cautions on Serotonin syndrome; activation of mania/hypomania; elevated blood pressure & increased risk of bleeding. Caution is advised to patients with pre-existing hypertension, cardiovascular, cerebrovascular conditions, angle-closure glaucoma, seizure, hyponatremia, interstitial lung disease & eosinophilic pneumonia; discontinuation syndrome. 7. INTERACTIONS: MAOI; other serotonergic drugs; drugs that interfere with hemostasis; drugs that are primarily metabolized by CYP2D6; avoid alcohol consumption. False-positive urine immunoassay screening tests for phencyclidine (PCP) and amphetamine have been reported in patients taking desvenlafaxine. 8. PREGNANCY AND LACTATION: There are no published studies on Pristiq in pregnant women. There are risks associated with untreated depression in pregnancy and with exposure to SNRIs and SSRIs, including Pristiq, during pregnancy. Available limited data from published literature show low levels of desvenlafaxine in human milk, and have not shown adverse reactions in breastfed infants. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for Pristiq and any potential adverse effects on the breastfed child from Pristiq or from the underlying maternal condition. 9. SIDE EFFECTS: Most commonly observed adverse reactions in short-term fixed-dose studies were: nausea, dizziness, insomnia, hyperhidrosis, constipation, somnolence, decreased appetite, anxiety, and specific male sexual function disorders. 10. DRUG ABUSE AND DEPENDENCE: Pristiq is not a controlled substance. Reference: HK PI (Version Date Apr 2018). Date of preparation: Apr 2019 Identifier number: PRIS0419. FULL PRESCRIBING INFORMATION IS AVAILABLE UPON REQUEST.

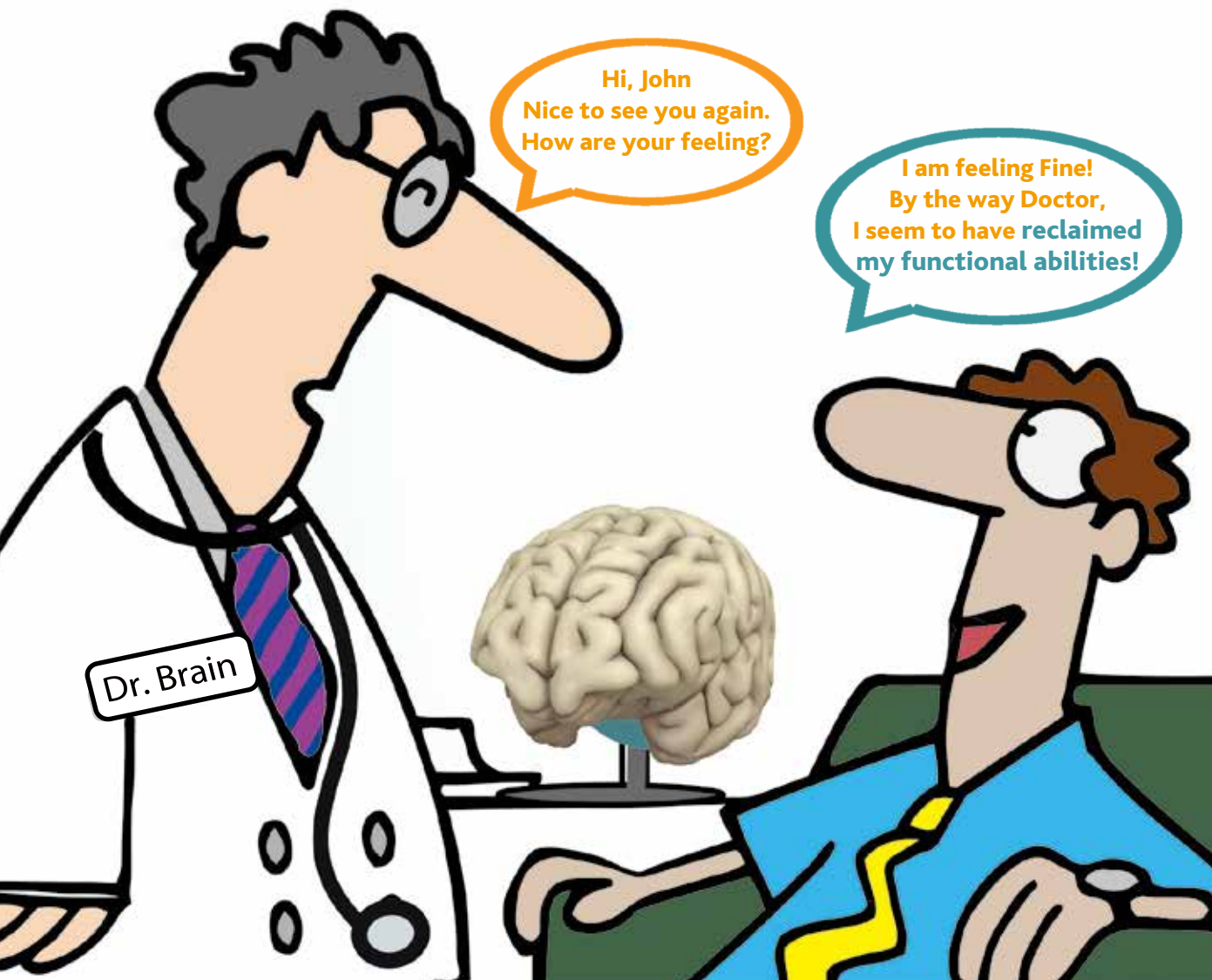


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# Restore Patients' Functioning from Depression



## BRINTELLIX® (VORTIOXETINE) - ABBREVIATED PRESCRIBING INFORMATION

**Brintellix®: Active Substance:** Vortioxetine Hydrobromide. **Presentation:** Film-coated tablets 5mg, 10mg and 20mg. **Indication:** Treatment of major depressive episodes in adults. **Dosage:** Adults: starting and recommended dose is 10mg, once-daily, taken with or without food. Elderly ≥65 years: Starting dose 5mg. Children and adolescents (<18 years): should not be used. **Discontinuation:** Patients can abruptly stop taking the medicinal product without the need for a gradual reduction in dose. **Contraindications:** Hypersensitivity to vortioxetine or to any of the excipients. Combination with MAO-inhibitors. Should not be used during pregnancy or lactation unless clearly needed and after careful consideration of the risk/benefit. **Special warnings and precautions:** Depression is associated with an increased risk of suicidal thoughts, self-harm and suicide. It is a general clinical experience that the risk of suicide may increase in the early stages of recovery. Close supervision of high-risk patients should accompany drug therapy. Patients (and caregivers) should be alerted about the need to monitor for any clinical worsening, suicidal behavior or thoughts and unusual changes in behaviour and to seek medical advice immediately if these symptoms present. Should be introduced cautiously in patients who have a history of seizure or in patients with unstable epilepsy. Patients should be monitored for the emergence of signs and symptoms of Serotonin Syndrome or Neuroleptic Malignant Syndrome. Should be used with caution in patients with a history of mania/hypomania and should be discontinued in any patient entering a manic phase. Patients treated with antidepressants, including vortioxetine, may also experience feelings of aggression, anger, agitation and irritability. Patient's condition and disease status should be closely monitored. There have been reports of cutaneous bleeding abnormalities with the use of SSRIs/SNRIs. Hyponatraemia has been reported rarely with the use of SSRIs/SNRIs. Mydriasis has been reported in association with use of antidepressants, including vortioxetine. This mydriatic effect has the potential to narrow the eye angle resulting in increased intraocular pressure and angle-closure glaucoma. Caution should be exercised for patients with renal or hepatic impairment. **Interactions:** Caution is advised when taken in combination with MAO-inhibitors, serotonergic medicinal products, products lowering the seizure threshold, lithium, tryptophan, St. John's Wort, oral anticoagulants or antiplatelet agents, and products predominantly metabolised by the enzymes CYP2D6, CYP3A4, CYP2C9 and Cytochrome P450. There have been reports of false positive results in urine enzyme immunoassays for methadone in patients who have taken vortioxetine. **Undesirable effects:** Very common: Nausea. Common: abnormal dreams, dizziness, diarrhoea, constipation, vomiting, pruritus, including pruritus generalised. Uncommon: flushing, night sweats. Rare: Mydriasis (which may lead to acute narrow angle glaucoma). Not known: Anaphylactic reaction, Hyponatraemia, Insomnia, Serotonin Syndrome, Haemorrhage (including contusion, ecchymosis, epistaxis, gastrointestinal or vaginal bleeding). Angioedema, Urticaria, Agitation, Aggression, Rash. **Overdose:** Symptomatic treatment. The most frequently reported symptoms were nausea and vomiting for overdoses of up to 80 mg and seizure and serotonin syndrome for overdoses above 80 mg. **Legal category:** POM. **Marketing Authorisation Holder:** Lundbeck HK Limited, Suite 4303, Central Plaza, 18 Harbour Road, Wanchai, Hong Kong. **Revision Date:** Jan 2021 based on HK SmPC dated Sep 2020. **Full prescribing information is available upon request.**



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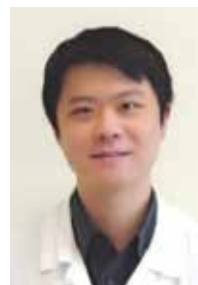
# Mental Health in the Elderly in Hong Kong Amid the COVID-19 Pandemic

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## INTRODUCTION

Since the emergence of the first known case of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection in December 2019, the world has been severely affected by the Coronavirus Disease 2019 (COVID-19). The World Health Organization (WHO) declared COVID-19 a pandemic on 11<sup>th</sup> March 2020. As of August 2021, the pandemic was still affecting the daily lives of millions worldwide, with different countries suffering from peaks of infections at various time points in the past months, and the full effects of the mass vaccination programme have yet to emerge.

The elderly population has always been a vulnerable group even before the pandemic, as the ageing population among most developed countries around the world continues to suffer from more and more chronic illnesses. The effect of the pandemic on this vulnerable population has been particularly harsh. Studies have already shown that most of the confirmed cases and deaths of the pandemic were found in the elderly population, and the severity of the infection increased with age.<sup>1-3</sup> Higher age itself was found to be a primary risk factor for death caused by COVID-19.<sup>4</sup>

Apart from direct physical health impact, the adverse psychosocial environment related to the pandemic has also significantly affected the elderly population. Stress resulting from the pandemic could trigger inflammatory processes in the immune system and predispose the elderly individual to psychiatric disorders such as anxiety and depressive disorders, while reducing immune responses to viral infections and predisposing the elderly to more severe conditions when contracting COVID-19.<sup>5</sup> A significant proportion of the elderly population resides in group living settings, which pose increased infection risks. Individuals with cognitive impairment might have difficulties following recommendations from public health authorities to avert the transmission of COVID-19, such as social distancing measures and hand hygiene.<sup>6</sup> Social isolation itself is also a serious public health problem, increasing risks of cardiovascular, autoimmune, neurological and mental health problems of the elderly.<sup>7</sup> The reallocation of resources to tackle the more urgent need of fighting against the pandemic might hinder other long-term services being offered to the various chronic diseases which the elderly population was suffering from. The fear of contracting the infection leading to missed appointments, medication noncompliance and suspension of social groups or day therapy services could potentially threaten the long-term health condition of the elderly.<sup>6</sup>

As more and more evidence has raised the awareness of the vulnerability of the elderly population during this difficult time of the pandemic, the authorities and healthcare professionals should put in greater effort in helping our senior citizens get through the crisis.

## THE LOCAL SITUATION

Various studies around the globe have described the magnitude of the impact of the pandemic on the mental health of the elderly population.<sup>8-15</sup> Similar to the rest of the world, Hong Kong is suffering from both an ageing population and the pandemic. More than one million elderly citizens aged 65 or above resided in Hong Kong in 2016, which was 16.6% of the whole population.<sup>16</sup> The elderly population is postulated to expand to 2.37 million by 2036, which will account for over 30% of the whole population.<sup>16</sup> Elderly mental health is already an emerging healthcare concern even without the pandemic.

Having experienced the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003, Hong Kong has implemented one of the strictest social distancing regulations in the world at various time points during the current pandemic. Unfortunately, no restrictions could be perfect and Hong Kong has also suffered through several waves of mass outbreaks of COVID-19 since early 2020. The elderly population is also one of the most impacted groups locally.

Physical activities are one of the most effective measures to maintain physical and psychological health in the elderly. The closing down of playgrounds has forced many elderly citizens to give up on their habit of morning exercises. While the measures might be temporary, the impact could be long-lasting for the elderly population, as resuming activities after breaking the habit could be hard, and the older person could rapidly lose the ability when inactive.<sup>17</sup> Social distancing measures cut down a lot of family gatherings and face-to-face activities for the elderly. While the younger population could potentially keep active and connected by using various social media platforms, the older generation might have difficulties in utilising the technology to reduce stress and loneliness.<sup>15</sup> The reduction in social support would render the older adults at risk of developing depression.<sup>18</sup>

A study conducted in China nationwide, including subjects from Hong Kong and Macau, reported a higher distress level in the elderly group during the pandemic.<sup>8</sup> Local experts also warned that the fear of contracting



the virus, and the disconnection and isolation arising from quarantine and other social distancing measures might have unintended consequences of inducing loneliness, fear, and panic in the community, especially among older residents.<sup>19</sup>

## FAMILY CONNECTION IN CHINESE CULTURE

Family support is vital in the elderly. Studies have shown that the elderly in low-functioning families with weak solidarity feel more depressed and lonely.<sup>20</sup> Filial piety, a virtue of respect for one's parents, elders and ancestors, is one of the most important values among the Chinese. During various traditional festivals such as the winter solstice and Chinese New Year, it is a tradition for Chinese families to gather together at the family elders' place for a reunion. People in Hong Kong follow these traditions every year.

With the implementation of social distancing measures, many family traditions could not be sustained. Without younger generations to visit them during the festivals, the elderly would feel even lonelier. Some elderly with cognitive impairment might have difficulty in understanding the changes and blame family members for disrespecting them during big festivals.<sup>21</sup> The lack of face-to-face interactions would also make it difficult for the elderly individuals with dementia to recognise their family members later on, causing a negative impact on the emotions of the family members as well.

## SUSPENSION OF DAY FACILITIES

Attending day service is part of the routine of many elderlies in Hong Kong. There are 90 government-subsidised elderly daycare centres in Hong Kong, providing services to elderlies in need.<sup>22</sup> The day facilities not only benefit the elderlies in their physical and mental well-being, but also provide enormous caregiver support to the family of the elderlies. As mentioned, it would be more difficult for the elderly to pick back up habits and exercise after a period of suspension as a result of their rapid deterioration in muscle strength. The suspension of these day facilities would pose a significant long-term risk to the physical and mental health of the elderly who used to attend these day centres for their daily exercise routine.<sup>17</sup>

The suspension of geriatric and psychogeriatric day hospitals has put a halt to their daily routine for the usual attendees and led to physical deconditioning. Some elderlies with dementia who are attending the Dementia Community Support Scheme (DCSS) as part of their treatment regimen are also affected and have their training progress disrupted.<sup>22</sup>

## ARRANGEMENTS IN ELDERLY RESIDENTIAL HOMES

There were more than 78,000 placements in more than 700 old-age homes in Hong Kong as of March 2021.<sup>23</sup> Despite the suspension of visits by outsiders and the banning of resident outing in many old-age homes since the early stage of the pandemic, the elderlies in old-

age homes still suffered a great hit from the pandemic, especially during the third wave of the pandemic in Hong Kong, when a notable cluster of 44 patients was linked to an old-age home in Tsz Wan Shan district in July 2020.<sup>21,24</sup> Since then, the government strictly regulated the no-visiting policy in old-age homes during the worst times of the pandemic. The old-age home workers were also one of the prioritised groups to undergo mandatory COVID-19 testing regularly and to receive COVID-19 vaccinations.

The isolation of the elderly in the old-age homes has created significant negative impacts on their mental health, resulting in a "loneliness epidemic".<sup>21</sup> Apart from no-visiting, the daily activities and routine in the old-age homes have to be adjusted as well; for example, group physical activities have to be avoided, and the elderlies could not gather together for dining. Many elderlies residing in old-age homes also suffer from dementia, and they have lower resilience to adjust to the changes.<sup>6</sup>

Some old-age homes have implemented stricter rules, for newly admitted residents or those discharged from hospitals, of single-room isolation to minimise infection risks. While the risk of COVID-19 spreading in old-age homes could be reduced, the constant change of living environment could make some elderly residents difficult to adjust, particularly those with cognitive impairment.<sup>6</sup> At the later stage of the pandemic in Hong Kong, the residents of the whole old-age home would be required to relocate to a government isolation facility when there was a confirmed case of COVID-19 in the old-age home. This re-location, albeit temporary, created significant distress in the affected residents, and could potentially worsen the behavioural and psychological symptoms of dementia in the residents.<sup>6</sup>

## IMPACT ON CAREGIVERS

The impact of the pandemic on the caregivers of the elderly should not be overlooked. Caregivers themselves could fall sick because of COVID-19 or might need isolation themselves due to contact tracing, resulting in severe disruption in the care for the elderly. The caregivers could also become anxious, stressed and exhausted.<sup>6</sup> At the early stage of the pandemic when resources were scarce and personal protective equipment was insufficient, the caregivers were even more stressed as they needed not only to source resources to protect themselves, but also to organise support and protection for the elderly. However, their extra efforts might not be appreciated by the elderly, who might not fully comprehend the situation. As mentioned above, the disruption to family connections, suspension of day services, and changes in arrangements in the old-age homes have also created extra burdens and significant stress for the caregivers.

## POTENTIAL IMPACT ON ELDERLY SUICIDE RATES

Suicide is inevitably the most crucial topic in mental health issues, and it is no exception concerning the mental health of the elderly in the pandemic. A local study in 2003 found 22 suicide events to be related



to SARS, with the mean age of attempters at 74.9 years.<sup>25</sup> Disease burden among the elderly with long term illness contributed as a significant risk factor for suicide. Another local cross-sectional study showed an increase in suicide rates in older adults during the year of the SARS outbreak, and the results were particularly significant in female subjects above the age of 65.<sup>26</sup> The elevation in elderly suicide rates lingered until 2004 despite the SARS outbreak being short-lasting in 2003.<sup>27</sup>

With this solid evidence of a strong association between infection outbreaks and elderly suicide rates, the effect of the current pandemic on elderly suicide must be urgently addressed. A local telephone interview study was conducted from March to April 2020 comparing the elderly with late-life depression and healthy controls. A higher level of suicidal ideation was found in those suffering from late-life depression.<sup>28</sup> Coping efficacy, loneliness and stress were some factors identified to be associated with suicidal ideation. When the pandemic was severe, people with suicidal crises might fear that the service was already overwhelmed and they would avoid face-to-face appointments, putting them less likely to be identified and further at risk.<sup>29</sup> Special attention should be given to them to strengthen their coping skills and resilience to stress.

## FUTURE DIRECTIONS

The current COVID-19 pandemic has not yet shown signs of dissolving, and various nations around the world have started to implement strategies to reduce its harm to elderly mental health.<sup>30</sup> In Hong Kong, some measures have been implemented, but still many more can be done. For example, exercise videos and self-help materials to keep an active lifestyle during the pandemic are available to patients in the public health care sector through the mobile application HA Go, but it is not readily available to all elderlies in Hong Kong, especially for those who have difficulty using smartphone applications. Usage of more traditional social media such as television or radio network might benefit the elderly population more. Some old-age homes in Hong Kong allow limited visiting through glass walls or windows, but there is a lack of regulations and recommendations concerning the implementation, leading to inconsistent practices among different old-age homes and confusion in the caregivers. Proper and clear guidelines concerning visiting arrangements could benefit the elderlies residing in old-age homes.

With the experience from SARS in 2003 and the current COVID-19 pandemic, we can better prepare ourselves to tackle the negative impacts on elderly mental health should there be future infection outbreaks to come. Protecting elderly mental health is as important as preventing and treating the infection. Stress, loneliness and social support are some of the major factors affecting the mental health of the elderly during crises. Therefore, strategies should be based on these important factors to help our elderly citizens.

To be empowered to tackle stress, the elderly must be well informed about the situation with clear guidelines provided by the authorities. Yet the elderly must not be overwhelmed by the information nor given the wrong information. For the particularly vulnerable

elderly groups such as those having pre-existing mood disorders, exposure to too much information or news could cause significant stress and anxiety.<sup>31</sup> These elderlies with pre-existing mood disorders should be guided to understand themselves and be validated that it is normal to feel stress and fear in unpredictable situations. Detailed practical suggestions might sound trivial, but are actually very useful to the elderly. Recommendations could include keeping contact with family and friends, continuing regular daily activities and exercise patterns, and maintaining a healthy and balanced diet.<sup>31</sup> Suicide risk should be assessed early in the elderly population, and prompt action should be taken when suicide risk in an individual outweighs the infection risk.

To limit loneliness and strengthen social support for the elderly, a balance between infection control and maintaining people's daily lives should be obtained. While physical visiting might not be recommended, staying in touch with loved ones through other social media platforms could be encouraged. Activities in old-age homes and day facilities could maintain at a certain level by service reorganisation to minimise physical contact.<sup>21</sup> Early screening tests for the elderly might help resume their activities at an earlier stage. Clearer guidelines and recommendations on visiting in old-age homes could also reduce confusion and stress in the caregivers.

Telehealth interventions could be explored to assist mental health care in the elderly during infection outbreaks. Mindfulness practices, behavioural activation, guided imagery, psychoeducation, or cognitive behavioural therapy are possible treatment modalities that could be carried out through telecommunications.<sup>32</sup> However, in the elderly population, sensory impairment is common. Some telehealth interventions would need adjustments to accommodate the elderly population, such as increasing the font size and changing the boldness of the font.<sup>32</sup>

In the long term, psychogeriatric service and public awareness of elderly mental health should be improved as our population is ageing. While we all hope that the current COVID-19 pandemic will disappear soon, we cannot predict when we will face another mass infection outbreak crisis in the future. With the experience from previous outbreaks, we can better prepare ourselves to help our vulnerable elderly population in preserving their mental well-being during difficult times.

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**ABILIFY® (aripiprazole) is indicated for the treatment of irritability associated with autistic disorder in pediatric patients (aged 6 to 17 years).<sup>1</sup>**

**Abbreviated Prescribing Information:**  
**PRESENTATION:** Tablets containing 2mg, 5mg, 10mg and 15mg aripiprazole; Oridispersible Tablets containing 10mg and 15mg aripiprazole. **INDICATIONS:** Schizophrenia, Bipolar I Disorder (as monotherapy or as adjunctive therapy with lithium or valproate), Adjunctive Treatment for Major Depressive Disorder in adults and Irritability Associated with Autistic Disorder. **DOSEAGE:** For Schizophrenia, the recommended starting and target dose for adults is 10 to 15 mg once-daily without regard to meals. ABILIFY has been systematically evaluated and shown to be effective in a dose range of 10 to 30mg/day when administered as a tablet formulation. In adolescent patients (13-17 years), the recommended target dose is 10 mg/day. Aripiprazole was studied in this patient group with schizophrenia at daily doses of 10 mg and 30 mg. The starting daily dose of the tablet formulation was 2 mg, which was titrated to 5 mg after 2 days and to the target dose of 10 mg after 2 additional days. Subsequent dose increases should be administered in 5 mg increments. The 30 mg/day dose was not shown to be more efficacious than the 10mg/day dose. For Bipolar I Disorder, the recommended starting dose for adults is 15 mg given once daily as monotherapy and 10mg to 15mg given once daily as adjunctive therapy with lithium or valproate without regard to meals. The dose may be increased to 30 mg/day based on clinical response. In pediatric patients (10-17 years), the starting daily dose as monotherapy is 2 mg/day, with titration to 5 mg/day after 2 days and a target dose of 10 mg/day after 2 additional days. Recommended dosing as adjunctive therapy to lithium or valproate is the same. Subsequent dose increases, if needed, should be administered in 5 mg/day increments. ABILIFY can be administered without regard to meals. For Adjunctive Treatment of Major Depressive Disorder, the recommended starting dose is 2 mg/day to 5 mg/day. The efficacy of ABILIFY was established within a dose range of 2 mg/day to 15 mg/day. Dose adjustments of up to 5 mg/day should occur gradually at intervals of no less than 1 week. For Irritability Associated with Autistic Disorder, the efficacy of ABILIFY has been established in the treatment of pediatric patients 6 to 17 years of age. Dosing should be initiated at 2 mg/day. The dose should be increased to 5 mg/day, with subsequent increases to 10 mg/day or 15 mg/day if needed. Dose adjustments of up to 5 mg/day should occur gradually at intervals of no less than 1 week. **CONTRAINDICATIONS:** Hypersensitivity to the product. **WARNING AND PRECAUTIONS:** Elderly patients with demented psychosis treated with atypical antipsychotic drugs are at an increased risk of death compared to placebo. ABILIFY is not approved for the treatment of patients with dementia-related psychosis. Clinical improvement may take several days to some weeks; monitor patient throughout the period. Drug discontinuation should be considered if signs and symptoms of tardive dyskinesia appear. A potential fatal symptom complex sometimes referred to as Neuroleptic Malignant Syndrome (NMS) may occur with administration of antipsychotic drugs, including aripiprazole. Patients with recurrence of NMS have been reported should be carefully monitored. Atypical antipsychotic drugs have been associated with metabolic changes that include hyperglycemia/diabetes mellitus, dyslipidemia, and body weight gain. Patients with a history of a clinically significant low WBC or other conditions that lower the seizure threshold. All patients being treated with antipsychotics for any indication should be monitored appropriately and observed closely for clinical worsening, suicidality, and unusual changes in behavior, especially during the initial few months of a course of drug therapy, or at times of dose changes, either increases or decreases. Do not use in pregnancy unless benefit outweighs risk; breastfeeding not advised. Until individual patient response established, caution not to drive or operate machinery. **DRUG INTERACTIONS:** Both CYP3A4 and CYP2D6 are responsible for ABILIFY metabolism. Agents that induce CYP3A4 (e.g., carbamazepine) could cause an increase in ABILIFY clearance and lower blood levels. Inhibitors of CYP3A4 (e.g., ketoconazole) or CYP2D6 (e.g., quinidine, fluoxetine, or paroxetine) can inhibit elimination and cause increased blood levels. **ADVERSE EVENTS:** Adverse events occurred in 10% or more of patients treated with ABILIFY are: nausea, vomiting, constipation, headache, dizziness, anorexia, anxiety, insomnia, restlessness, somnolence and extrapyramidal disorder. **OVERDOSEAGE:** Treatment should be symptomatic and supportive; adequate airway maintenance, cardiovascular monitoring and dose medical supervision. Activated charcoal reduces serum concentrations. Please refer to full Package Insert for details.

For product's safety, contraindication and side effects or toxic hazards, please refer to the package insert. Further information is available upon request.  
 References: 1. Abilify Hong Kong Package Insert (revised Sep 2016).



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# Mental Health of Children and Adolescents during the COVID-19 Pandemic

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## INTRODUCTION

Hong Kong has experienced four waves of COVID-19 since the first case was confirmed in January 2020. The number of confirmed cases and the number of people who have died from COVID-19 in Hong Kong was low compared to the rest of the world. However, our life has drastically changed to quell the spread of the pandemic. The Hong Kong Government closed high-risk premises such as schools, facilities for sports and leisure activities, reduced the seating capacity of restaurants, implemented home confinement and work-from-home measures and suggested avoidance of social gatherings. During this period, schools were only opened for less than three months in the entire year of 2020. Only since 24 May 2021 have all schools resumed half-day face-to-face teaching. COVID-19 related anxiety,<sup>5</sup> change in peer relationship<sup>9</sup>, change in family relationship and functioning,<sup>9</sup> loneliness and isolation,<sup>3</sup> decrease in physical exercise<sup>9</sup>, difficulties with online learning,<sup>9</sup> and increase in screen time<sup>9</sup> all significantly affected the mental health of the children.

## MENTAL HEALTH OF CHILDREN AND ADOLESCENTS DURING THE PANDEMIC

### Depression

Cross-sectional online studies from China in the early phase of the pandemic reported a high prevalence of anxiety and depression in children and adolescents, with 12 to 45% reported to have at least a mild level of depression.<sup>2,5,17,22</sup> Zhou et al. reported, among the 8,079 adolescents aged 12-18 years old, the rate of mild depression was 26.4%, while that of moderate depression was 10.1%. The prevalence of comorbid depressive and anxiety symptoms was 31.3%.<sup>22</sup> Duan reported 11.78% were depressed during the lockdown and this continued after the lockdown with a rate of up to 12.33%.<sup>2</sup> Meta-analysis of studies in China reported the pooled prevalence was 29% (95% CI: 17%-40%).<sup>12</sup> Murata et al. in the US reported 55% of the adolescents had moderate to severe symptoms of depression.<sup>16</sup> Another study of adolescents and young adults in the US reported 10.4% of depression among 12 to 22 years old.<sup>7</sup>

### Anxiety

The level of anxiety experienced by adolescents was

equally high. Studies from China reported 19 - 37% of adolescents developed anxiety.<sup>2,5,17,22</sup> Duan reported the anxiety reduced from 16.7 % during lockdown to 6.26% after lockdown.<sup>2</sup> The pool prevalence in China was 26% (95% CI: 16% - 35%).<sup>12</sup> Murata et al. reported 48% of their adolescent group from New York reported moderate to severe anxiety.<sup>16</sup> Another New York study reported the percentage of participants with clinically elevated panic/somatic symptoms, generalised anxiety and social anxiety symptoms during COVID-19 was 18.2%, 40.4%, and 29.5%, respectively. Nearly half of their female experienced clinically elevated generalised anxiety during COVID-19.<sup>7</sup> In Australia, 40.1% of adolescents developed severe health anxiety.<sup>9</sup>

### Post-traumatic stress disorder (PTSD)

45% of the adolescents from a US study reported moderate to severe symptoms of PTSD, and 58% with symptoms of prolonged grief.<sup>16</sup> In another study conducted in Italy from May to June 2020, 0.08% met the diagnosis of COVID-19 related Acute Stress Disorder (ASD) and 0.16% met the diagnosis of COVID-related PTSD. 79.52% of this group reported isolated COVID-19 related ASD (29.48%) or PTSD (50.04%) symptoms.<sup>15</sup> In Saudi Arabia, no, minimal, mild and potential PTSD symptoms were identified in 15.5%, 44.1%, 27.1% and 13% of children and adolescents, respectively.<sup>19</sup>

### Sleeping disturbance

Sleep problems were reported in nearly 25% of typically developing children before the pandemic.<sup>20</sup> The pooled prevalence during the pandemic was 54% (95%CI: 50-57%).<sup>20</sup> The pooled prevalence of children not meeting sleep recommendations was 49% (95%CI: 39%-58%).<sup>20</sup> In the US, 69% reported having sleep problems.<sup>16</sup> In Australia, 40.5% reported subthreshold insomnia, 28.7% reported moderate severity insomnia and 6.4% reporting severe insomnia.<sup>9</sup> Interestingly, the prevalence of sleep problems in pre-school children was lower than pre-pandemic times (RR=0.87; 95% CI: 0.58-1.30) but this was not statistically significant.<sup>(20)</sup> One study found the relative risk of sleep impairment was up to 1.89 (1.29-2.78).<sup>11</sup>

### Mental health change under the pandemic

A study from Toronto examined the mental health changes in children and adolescents across six domains: depression, anxiety, irritability, attention, hyperactivity,

and obsessions/compulsions. 67-70% of children/adolescents experienced deterioration in at least one mental health domain; however, 19-31% of children/adolescents experienced an improvement in at least one domain.<sup>4</sup> One study reported a nearly three-fold increase in the rate of clinically elevated depression in their female participants.<sup>7</sup> In Dutch, more children reported severe anxiety symptoms than before lockdown, with a relative risk of 1.95 (1.55-2.46; 16.7% before vs 8.6% during).<sup>11</sup> Electronic health data were extracted from the Children's Hospital of Philadelphia primary care network comparing changes in depression for the period of June to December 2019 and June to December 2020. The percentage of adolescents screening positive for depressive symptoms increased from 5.0% to 6.2% (PR: 1.24, 95% CI: 1.15-1.34).<sup>14</sup> In Germany, the prevalence of noticeable mental health problems was 9.9% (n = 153) before the pandemic and increased to 17.8% (n = 283) during the pandemic. This increase was significantly higher in 7- to 10-year-olds (from 7.4% to 26.8%) compared with 11- to 13-year-olds (from 12.8% to 14.5%).<sup>18</sup>

## Suicide

Murata reported 37% of the adolescents had a suicidal idea, and 1.7% had an actual suicide attempt.<sup>16</sup> Positive suicide risk screening in the primary care network in Philadelphia increased from 6.1% to 7.1% (PR: 1.16, 95% CI: 1.08-1.26), with a 34% relative increase in reporting recent suicidal thoughts among female adolescents (PR: 1.34, 95% CI: 1.18-1.52).<sup>14</sup>

## MENTAL HEALTH OF CHILDREN IN HONG KONG

More than 70% of kindergarten and primary school children reported a lack of focus/interest during online teaching. Only 9.1% and 14% of kindergarten and primary school students respectively could complete online learning without parental assistance.<sup>8</sup> After school closure, children, on average, slept for 10.76 hours, exercised for around 1 hour and used electronic devices for 2.31 hours per day. The amount of time spent on electronic devices for gaming and recreational purposes increased on average by about 1 hour after school closure.<sup>21</sup>

Tso et al. conducted a large study including nearly 30,000 families with children aged 2-12 years old. As compared to an earlier Hong Kong study sample, children demonstrated significantly more psychosocial problems as measured by the 25-item Strength and Difficulties Questionnaire (SDQ) total difficulties score and fewer prosocial behaviours as measured by the SDQ prosocial behaviour score. The mean total difficulties score was 12.09 (SD: 5.42). Children also had poorer functioning measured by the 18-item Paediatric Quality of Life Inventory 4.0 Generic Core Scales (PedsQL), and their parents exhibited higher levels of parenting stress.<sup>21</sup> Children with special education needs, acute or chronic disease, mothers with mental illness, single-parent families, and low-income families had a higher risk. Delayed bedtime, inadequate sleep or exercise duration, and extended use of electronic devices were associated with significantly higher parental stress and more psychosocial problems among pre-schoolers.<sup>21</sup>

In an online survey conducted between April and May 2020, 36% out of 300 Form 1 to Form 6 students reported mental distress. Participants in Form 6 were eight times more likely to exhibit mental distress than those in Form 1. Help-seeking from friends and family was associated with a decreased likelihood of mental distress.<sup>10</sup>

## RISK AND PROTECTIVE FACTORS IN MENTAL HEALTH

Many variables have been tested for association with and predictive value for worsening of mental health. Among these, COVID-19-related anxiety, being female, loneliness and past psychiatric problem were the most frequent factors identified for poor mental health. On the other hand, a good relationship with parents, social support and exercise was protective against mental deterioration.

### COVID-19-related anxiety

Fear of coronavirus infection was associated with more psychiatric symptoms.<sup>5,12,13</sup> The prevalence of anxiety and depression was higher in those reported exposure to COVID-19.<sup>5,11,17</sup> There was a significant positive correlation between fear of contracting COVID-19 and behaviour change,<sup>9</sup> feeling of uncertainty about the future,<sup>9</sup> poor sleep,<sup>9</sup> psychological distress,<sup>9</sup> anxiety about health,<sup>1,9</sup> depression<sup>1,13</sup> and anxiety symptoms before the pandemic respectively.<sup>13</sup> COVID-19-related worries predicted increased mental health problems<sup>13</sup> and PTSD symptoms.<sup>16</sup> COVID-19 stress was related to loneliness and depression, especially for adolescents who spent more time on social media.<sup>6</sup> High daily social media usage and exposure to media about COVID-19 predicted depression symptoms and suicidal ideation or behaviour in adolescents.<sup>16</sup> COVID-19 related-school concerns and home confinement were associated with more depression.<sup>7</sup>

### Being female

Many studies showed a differential response in males and females with females exhibiting a higher level of anxiety,<sup>1,2,5,7,13,17,22</sup> depression,<sup>1,2,6,7,13,14,22</sup> PTSD,<sup>16</sup> and suicidal thoughts.<sup>14</sup> Yet, some studies did not report any difference.<sup>3,4,5,11,16,19</sup> One even found females had lower anxiety.<sup>16</sup>

### Loneliness

Feeling socially connected is protective against poor mental health.<sup>13</sup> Adolescents who reported a stronger feeling of loneliness had significantly higher symptoms of mental health difficulties.<sup>3,16</sup> Greater stress from social isolation was associated with a deterioration in all mental health domains (depression, anxiety, irritability, attention, hyperactivity, and obsessions/compulsions) (all ORs 11.12–55.24), with depression being up to OR of 55.24 and anxiety OR of 54.36.<sup>4</sup> A high level of loneliness predicted depressive symptoms,<sup>6,16</sup> PTSD symptoms,<sup>16</sup> and an increasing time on social media.<sup>16</sup>

Screen time was markedly increased during the pandemic<sup>6,9</sup> with one study having reported nearly 50%





of the participants used more than 5 hours per day.<sup>6</sup> The effect of screen time on mental health can be mixed. A study on social media usage found that anxious adolescents more often used the social media to search for information to enhance coping during the pandemic than to keep in touch with friends and family; this adaptation was positively associated with happiness. On the other hand, adolescents who felt lonely were more inclined to use social media to face social isolation, yet this coping strategy was not significantly associated with happiness.<sup>1</sup> Two studies have shown that adolescents having a virtual socialisation space was correlated with a lower perceived stress load,<sup>9,15</sup> higher levels of well-being<sup>9</sup> and lower level of loneliness.<sup>9</sup> Yet another study found more time connecting to friends virtually during the pandemic was related to greater depression.<sup>6</sup> Adolescents who spent more time texting others reported higher symptoms of mental health difficulties.<sup>3</sup> Smartphone addiction (OR 1.411, 95% CI 1.099-1.180) and internet addiction (OR 1.844, 95% CI 1.209-2.811) were associated with a higher level of depression.<sup>5</sup>

## Past psychiatric problems

Children with a history of mental illness or high baseline scores for psychiatric symptoms were associated with worse psychiatric outcomes during the pandemic,<sup>3,4,16</sup> and higher symptoms of acute stress disorder or PTSD.<sup>15</sup> Participants with a history of depression or anxiety reported worse mental and physical health, lower levels of exercise, greater use of technology, poorer sleep, higher levels of loneliness, uncertainty about the future, psychological distress, health anxiety and lower levels of well-being.<sup>9</sup> The Co-space study in the UK was a study aimed to follow the mental health of children and adolescents aged 14-16 years throughout the pandemic. It started collecting data since seven days after locked down and monthly afterwards. In the one month follow up for adolescents between 11-16 years old, adolescents with a higher baseline hyperactivities, conduct problems and psychological distress predicted a higher level of hyperactivities, conduct problems and psychological distress at follow up.<sup>3</sup> Notwithstanding, the study in Toronto reported both deterioration and improvement for those with pre-existing psychiatric diagnoses.<sup>4</sup> Home confinement could lead to an improvement in social anxiety in adolescents.<sup>4,7</sup> The stay-at-home measures may take away the source of distress, academic pressure and interpersonal difficulties for those who previously experienced difficulties in school.<sup>4</sup>

## Social support

Low support was associated with a higher prevalence of depression symptoms (OR4.24, 95% CI: 3.38-5.33) and anxiety symptoms (OR= 1.26, 95% CI: 1.04-1.52).<sup>17</sup> Good parent-child relationship and family time were associated with a lower level of anxiety, depression,<sup>2,6,17</sup> loneliness,<sup>3</sup> mental health difficulties<sup>3</sup> and conduct problem.<sup>3</sup> Closeness with parents at baseline predicted less emotional symptoms and psychological distress at follow up.<sup>3</sup> One study found that increased conflict with father significantly moderated the change in depression, but not anxiety, but there was no significant impact on anxiety or depression for increased conflict

with siblings, friends and mothers.<sup>13</sup> Growing up in a single-parent family or having three or more children in the family,<sup>11,21</sup> an adverse change in work situation of parents<sup>11</sup> and lower income<sup>6,21</sup> were linked to a worse outcome.

## Exercise

20-26% of adolescents reported zero exercises in the last seven days.<sup>6,9</sup> Most young people reported either a decrease in exercise or no change.<sup>9</sup> In Australia, approximately half of the respondents indicated that they exercised for 30 min on at least 1-2 days in the last seven days.<sup>9</sup> In the Canadian group, 40% reported strenuous activity over the past seven days while 21.3% reported a moderate level of exercise.<sup>6</sup> Physical activity was related to less depression,<sup>2,6</sup> anxiety<sup>2</sup> and more time with family<sup>6</sup> and predicted less loneliness.<sup>6</sup> Greater exercise was associated with lower levels of screen time, better sleep, lower levels of psychological distress and a greater sense of well-being.<sup>9</sup>

## CONCLUSION

The mental health of children and adolescents significantly deteriorated during the COVID-19 pandemic, although some reported improvement. While controlling the spread of the virus is important, we also need to support the mental health needs of this vulnerable group, especially those at risk. Maintaining the daily structure and routine, exercise, quality family time and connection with friends are essential to maintaining their mental well-being.

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## Radiology Quiz

## Radiology Quiz

Dr Sonia HY LAM

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Dr Sonia HY LAM



## Questions

1. What is the abnormality?
2. What is the likely diagnosis?
3. What is the next investigation to undertake?

*(See P.37 for answers)*



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\* Establish tolerability with oral aripiprazole before initiating therapy. For patients stable on oral aripiprazole or another oral antipsychotic, after the first ABILIFY MAINTENA injection, continue treatment with the antipsychotic for 14 consecutive days.

**Abilify Maintena DCS Abbreviated Monograph**

**PRESENTATION:** Extended release injectable suspension: 300 mg and 400 mg strength lyophilized powder for reconstitution in single-dose pre-filled dual chamber syringe. **INDICATION:** 1) Treatment of schizophrenia in adults. 2) Maintenance monotherapy treatment of bipolar I disorder in adults. **DOSAGE:** ABILIFY MAINTENA is only to be administered by intramuscular injection by a healthcare professional. The recommended starting and maintenance dose of ABILIFY MAINTENA is 400 mg monthly (no sooner than 26 days after the previous injection). For patients who have never taken aripiprazole, establish tolerability with oral aripiprazole prior to initiating treatment with ABILIFY MAINTENA. Due to the half-life of oral aripiprazole, it may take up to 2 weeks to fully assess tolerability. After the first ABILIFY MAINTENA injection, administer oral aripiprazole (10 mg to 20 mg) for 14 consecutive days to achieve therapeutic aripiprazole concentrations during initiation of therapy. For patients already stable on another oral antipsychotic (and known to tolerate aripiprazole), after the first ABILIFY MAINTENA injection, continue treatment with the antipsychotic for 14 consecutive days to maintain therapeutic antipsychotic concentrations during initiation of therapy. If there are adverse reactions with the 400 mg dosage, consider reducing the dosage to 300 mg once monthly. **CONTRAINDICATION:** ABILIFY MAINTENA is contraindicated in patients with a known hypersensitivity to aripiprazole. **WARNINGS AND PRECAUTIONS:** Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. ABILIFY MAINTENA is not approved for the treatment of patients with dementia-related psychosis. If a patient requires antipsychotic drug treatment after recovery from Neuroleptic Malignant Syndrome (NMS), the potential reintroduction of drug therapy should be carefully considered. If signs and symptoms of tardive dyskinesia appear in a patient treated with ABILIFY MAINTENA drug discontinuation should be considered. Atypical antipsychotic drugs have been associated with metabolic changes that may increase cardiovascular/cerebrovascular risk. If patients developed leukopenia, neutropenia, and agranulocytosis, consider discontinuation of ABILIFY MAINTENA at the first sign of a clinically significant decline in white blood cell count (WBC) in the absence of other causative factors. Use ABILIFY MAINTENA cautiously in patients with a history of seizures or with conditions that lower the seizure threshold. Instruct patients to avoid operating hazardous machinery, including automobiles, until they are reasonably certain that therapy with ABILIFY MAINTENA does not affect them adversely. **ADVERSE REACTIONS:** Based on the placebo-controlled trial of ABILIFY MAINTENA in schizophrenia, the most commonly observed adverse reactions associated with the use of ABILIFY MAINTENA in patients (incidence of 5% or greater and aripiprazole incidence at least twice that for placebo) were increased weight, akathisia, injection site pain and sedation. **DRUG INTERACTIONS:** Dosage adjustments to 300mg are recommended in patients who are CYP2D6 poor metabolizers, and in patients taking 400 mg strength syringes with strong CYP2D6 or CYP3A4 inhibitors for greater than 14 days. Avoid the concomitant use of strong CYP3A4 inhibitors or CYP2D6 inhibitors in patients taking 300mg strength syringes for greater than 14 days due to high aripiprazole concentrations. Please refer to full package insert for details.

For product's safety, contraindications and side effects or toxic hazards, please refer to package insert. Further information is available upon request.

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## Telemedicine in Psychiatry

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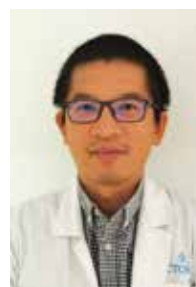
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## INTRODUCTION

Telemedicine typically consists of a live video and audio connection between clinical staff and a patient (who can be located at hospitals, clinics, homes or hostels). This technology has the potential to reinvent the practice of medicine. Psychiatry appears particularly suited to develop telemedicine as the psychiatric assessment mainly consists of conversations and laying eyes on the patients, while physical examination may not be needed in every clinical encounter.

Telemedicine has been employed since the 1950s. The use has increased exponentially during the COVID-19 era globally. It has been integrated into different psychiatric service models, from General Adult Psychiatry, Consultation-Liaison Psychiatry, Community Psychiatry, Child and Adolescence Psychiatry, to Old Age Psychiatry. The scope of telepsychiatry is extending from programmes implemented in institutions (i.e. patients are seen within a supervised setting) to treating patients directly at their home; the latter is often referred to as "clinically unsupervised telepsychiatry".<sup>1</sup>

There are increasing numbers of randomised controlled trials to prove the benefits of telepsychiatry management of specific conditions (e.g. insomnia,<sup>2</sup> depression,<sup>3</sup> anger management<sup>4</sup>). At the same time, there is other evidence to suggest that telepsychiatry provides more comprehensive benefits such as its cost-saving feature, improvement in care coordination, and reducing avoidance through early treatment and assessment.<sup>5</sup>

This review would touch on the potential benefits, administrative issues and limitations of telepsychiatry, as well as the evidence base of telepsychiatry in different populations. This review will also include a brief overview of telepsychiatry service in Hong Kong.

## POTENTIAL BENEFITS OF TELEMEDICINE IN PSYCHIATRY

A number of overseas studies support that telepsychiatry improves access to care and decreases the travelling time of both clinicians and patients.<sup>6,7,8</sup> There would be a subsequent reduction in waiting time and improvement in patients' satisfaction. Another potential benefit is that some patients who otherwise would refuse psychiatric care could be potentially engaged in telepsychiatry. For example, patients who have post-traumatic stress disorder or social anxiety disorder may

have feelings of safety and control as a result of the distance created by telepsychiatric consultation.<sup>9</sup>

Moreover, evidence suggests that telepsychiatry is cost-saving while maintaining clinical effectiveness when compared to face-to-face consultation.<sup>10</sup> By the nature of telepsychiatry, there is an increased sense of personal safety for staff and a drastic reduction in infectious risk.

## TELEPSYCHIATRY IN DIFFERENT PSYCHIATRIC POPULATION SETTINGS

Vast majority of clinical studies have shown similar efficacy in the clinical management of depression between the telepsychiatry group and the in-person group.<sup>10</sup> Both groups of subjects expressed similar acceptability and satisfaction. For the psychiatrists, face-to-face consultation was a more preferable and satisfying way to deliver care.<sup>11</sup>

As for the emergency care setting, a systematic review published in 2015 showed that patients had a high level of satisfaction with telepsychiatry, and that the use of telepsychiatry correlated with decreased admissions to psychiatric inpatient units.<sup>12</sup> The quality of clinical interaction in telepsychiatry was found to be similar to that in face-to-face care. It was also noted that telepsychiatric care seemed to be cost-effective. However, the results may not be locally applicable, as some previous overseas studies were conducted in areas with poor accessibility to psychiatric care, or where consultation-liaison service was unavailable in those settings.

The evidence of telepsychiatric assessment and intervention on patients suffering from severe mental disorders such as schizophrenia was limited.<sup>13</sup> Based on the available data, telephone, internet, and video conferencing appeared to be feasible modalities to deliver care to patients who have schizophrenia. In 2016, The European Psychiatric Association published recommendations on telehealth intervention based on available evidence.<sup>14</sup>

## APP-BASED INTERVENTION FOR MENTAL ILLNESS

Apart from traditional video-conferencing consultation, smartphone App-based interventions are also gaining momentum in telepsychiatry. Smartphone Apps allow users, usually patients, to monitor symptoms



real-time. In addition, there is potential to link up to other smart devices for further data capture (e.g. heart rate variability, breathing pattern, etc.). App-based interventions mainly target common mental disorders, including depressive or anxiety disorders or even subsyndromal mood symptoms.<sup>15</sup> The App-based programmes are primarily based on cognitive behavioural or mindfulness-based principles.<sup>16</sup> Evidence was robust in suggesting app-based interventions are more effective than control in improving depressive, general and social anxiety symptoms, stress levels, and quality of life in clinical or non-clinical populations. It was also shown that internet-based intervention coupled with professional guidance would further improve the patient outcome.<sup>17</sup> App-based interventions will also pave the way forward for automated machine-learning responses and more personalised intervention.

## ADMINISTRATIVE ISSUES OF TELEMEDICINE

A few administrative and regulatory issues arise specifically from telepsychiatry, such as the licensure, technology, patient safety, and malpractice issues that doctors and care providers need to be on the alert of.<sup>18</sup> The need for consent, potential recording of the consultations, and insurance coverage are areas where different service providers would face different requirements. The Hong Kong Medical Council has provided a practice guideline for Telemedicine in Hong Kong.<sup>19</sup> Data safety and handling, documentation and record-keeping are major issues that need to be addressed. Local data suggested that patient's concern on data safety was a hindrance to receiving telemedicine consultation.<sup>20</sup>

## LIMITATION OF TELEPSYCHIATRY

It appears that telepsychiatry assessment offers better reliability in assessing externalising disorders (e.g. anger-related disorder) than internalising disorders (e.g. anxiety-related disorder).<sup>21</sup> There could be a potential limitation for clinicians to read non-verbal communication and to conduct physical examination for certain neurological conditions, such as movements disorders or extrapyramidal side effects from medication. How telemedicine affects the therapeutic relationship and engagement to service remains to be answered. Another challenge would be equity,<sup>22</sup> in which care must be taken to ensure the access to psychiatric care is not limited by the patient's literacy in information technology.

## TELEPSYCHIATRY CARE IN HOSPITAL AUTHORITY IN HONG KONG – MENTAL HEALTH DIRECT

The most established Telepsychiatry Care service by the Hospital Authority (HA) is the Mental Health Direct (MHD) Service.

MHD was established in January 2012 to provide centralised, 24-hour telephone support by psychiatric nurses to patients with mental illness, to their caregivers and to the general public. The service model integrates

information and communication technology, clinical protocols and the HA Electronic Patient Record (ePR).

Since the commencement of the MHD services in 2012, the number of calls supported by MHD has been steadily increasing to reach over 200,000 calls in the past four years. Three dedicated spectra of services have been launched under MHD.<sup>23,24,25</sup> They are 1) Advisory Service, 2) Telecare Service and 3) Defaulter Tracing Service.

1) The Advisory Service aims to troubleshoot the mental health issues raised by patients with mental illness, by their caregivers, and by the general public. The Service helps to strengthen the knowledge of these enquirers on disease prevention, disease management and risk management. The Service also facilitates early detection and treatment of mental health problems. All calls are handled by trained psychiatric nurses guided by clinical protocols. MHD nurses will try to identify immediate mental health problems and perform risk assessment. They will offer prompt advice and will arrange referrals to appropriate mental health services under the HA for those in need. In the year 2020/21 alone, the Service handled approximately 43,000 calls. Over the past five years, there has been a steady annual increase of 10% to 20% in call numbers.

Another 24-hour psychiatric hotline, namely the Asia World-Expo (AWE) Community Treatment Facility & North Lantau Hospital Hong Kong Infection Control Centre Mental Health Direct (CTF & HKICC MHD), was established in August 2020 as part of the Advisory Service to provide advice on and support for mental health issues for patients who were diagnosed with COVID-19 and undergoing treatment in the AWE CTF and HKICC.

2) The Telecare Service aims to provide follow-up for certain patients who have been stepped down from Community Psychiatric Service (CPS). It facilitates their community adjustment and re-integration. A primary nurse from MHD is assigned to one particular patient in order to establish a good therapeutic relationship and to assure the continuity of care. Based on the patients' needs, structured and tailored-made intervention packages are provided through regular phone calls. In the year 2020/21, telecare service handled about 64,000 calls and supported approximately 2,500 patients.

3) The Defaulter Tracing Service aims to provide interim psychiatric advice and to rebook psychiatric outpatient appointments for defaulted patients as early as possible. Psychiatric specialist outpatient clinics (SOPCs) will send defaulter lists (those patients with medium risk or with specific clinical needs) to MHD daily for tracing via the Defaulter Management System. It is an IT communication platform between psychiatric SOPCs and MHD. Nurses in MHD will contact Psychiatric SOPC defaulters to provide interim psychiatric advice. They will identify potential risks in the defaulted patients and arrange appropriate timely support for them. The nurses will trace them in different time slots, including non-office hours and during

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**Study design:** INVICTUS was a global, multicenter, randomized, double-blind, placebo-controlled Phase 3 trial in 129 patients who had received ≥3 prior anticancer therapies for advanced GIST. The primary endpoint was PFS based on BICR using modified RECIST 1.1 criteria. Secondary endpoints were ORR by BICR, OS, and safety. Participants were randomized 2:1 to receive 150mg QD QINLOCK (n=85) or placebo (n=44). Treatment continued until disease progression or unacceptable toxicity. At disease progression, placebo patients could crossover to QINLOCK. After the primary analysis data cutoff date (May 31, 2019), 9 months of additional follow-up was conducted.<sup>3,4</sup>

**Abbreviations:** BICR, blinded independent central review; GIST, gastrointestinal stromal tumor; KIT, proto-oncogene encoding receptor tyrosine kinase protein; NCCN®, National Comprehensive Cancer Network®; ORR, objective response rate; OS, overall survival; RECIST, Response Evaluation Criteria in Solid Tumors; PDGFRα, platelet-derived growth factor receptor α; PFS, progression-free survival; QD, once a day; TKI, tyrosine kinase inhibitor.

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### QINLOCK (Ripretinib) TABLETS 50MG – ABBREVIATED PRESCRIBING INFORMATION

**INDICATIONS** Qinlock is indicated for the treatment of adult patients with advanced gastrointestinal stromal tumor (GIST) who have received prior treatment with imatinib, sunitinib, and regorafenib. **DOSAGE AND ADMINISTRATION** 150mg (three 50mg tablets) taken orally once daily. Dosage reduction for adverse reaction is 100mg orally once daily. Permanently discontinue QINLOCK in patients who are unable to tolerate 100 mg orally once daily. Please refer to the full prescribing information for recommended dosage modifications for adverse reactions and missed dose. Qinlock is not indicated in pediatrics (<18 years old). No dose adjustment is required for geriatrics (≥65 years old). Renal impairment – No dose adjustment is recommended for patients with mild and moderate renal impairment (creatinine clearance [CrCl] 30 to 89 mL/min estimated by Cockcroft-Gault). The pharmacokinetics and safety of Qinlock in patients with end-stage renal disease (CrCl <15 mL/min estimated by Cockcroft-Gault or requiring dialysis) or severe renal impairment (CrCl 15 to 29 mL/min) have not been studied. Hepatic impairment – No dose adjustment is recommended in patients with mild hepatic impairment (total bilirubin  $\times 1 \times$  ULN and AST  $\times 1 \times$  ULN, or total bilirubin 1.0 to 1.5  $\times$  ULN). The pharmacokinetics and safety of Qinlock in patients with moderate or severe hepatic impairment have not been studied. **CONTRAINDICATIONS** Hypersensitivity to ripretinib or to any ingredient in the formulation, including any non-medical ingredient, or component of the container. **WARNINGS AND PRECAUTIONS** The following are clinically significant adverse events: 1) Cardiac dysfunction. Cardiac failure and Grade 3 decreased ejection fraction has occurred in clinical study. Cardiac dysfunction has led to dose discontinuation. An assessment of the ejection fraction by echocardiogram or MUGA scan is recommended prior to initiation and during treatment, as clinically indicated. Permanently discontinue Qinlock for Grade 3 or 4 left ventricular systolic dysfunction; 2) Hypertension. Higher incidence of hypertension in patients treated with Qinlock than in placebo-treated patients in clinical study. Do not initiate Qinlock in patients with uncontrolled hypertension. Adequately control blood pressure prior to initiating Qinlock; 3) New primary cutaneous malignancies. Squamous cell carcinoma (SCC) of the skin and melanoma, actinic keratosis, keratoacanthoma and melanoma were reported in patients who received Qinlock in clinical study. Dermatological assessment should be performed when initiating Qinlock and patients should receive dermatological examinations routinely. Other warnings and precautions include cardiac ischaemic events, hypersensitivity, wound healing, reproduction, fertility, palmar-plantar erythrodysesthesia syndrome (PPES) and photosensitivity. **PREGNANCY AND BREAST-FEEDING** Pregnancy – Qinlock should not be administered to pregnant women. Advise females of reproductive potential and males with female partners of reproductive potential to use effective contraception to commence 2 weeks prior to treatment, during treatment and for at least one complete uterine cycle after the final dose of Qinlock. Breast-feeding – Advise women not to breastfeed during treatment and for at least 2 weeks after the final dose. **ADVERSE REACTIONS** The most common adverse events (≥20%) observed in clinical study were alopecia, fatigue, nausea, abdominal pain, constipation, myalgia, diarrhea, decreased appetite, palmar-plantar erythrodysesthesia syndrome, and vomiting. Serious adverse events occurred in 31% of patients who received Qinlock. Serious adverse reactions that occurred in >2% of patients were abdominal pain (4.7%), anemia (3.5%), nausea (2.4%), vomiting (2.4%). Dosage interruptions due to an adverse event occurred in 23.5% of patients who received Qinlock. Adverse events requiring dosage interruption in >2% of patients included nausea (3.5%), increased blood bilirubin (2.4%), and PPES (2.4%). Dose reductions due to an adverse event occurred in 7.1% of patients who received Qinlock. Adverse events resulting in a dose reduction in ≥1.2% of patients were abdominal pain, agitation, alopecia, arthritis, dermatitis, gastrointestinal disorder, hyperesthesia, myalgia, PPES, and decreased weight. Permanent discontinuation due to an adverse event occurred in 8.2% of patients who received Qinlock. Adverse events resulting in permanent discontinuation in ≥1% of patients included general physical health deterioration (2.4%), anemia (1.2%), cardiac failure (1.2%), PPES (1.2%), and vomiting (1.2%). **DRUG INTERACTIONS** In vitro data suggested that CYP3A4/5 is the major metabolizer of ripretinib. Potential interactions may occur with drugs/foods/herbs that are inhibitors or inducers of this enzyme system. Monitor patients more frequently for adverse reactions if Qinlock is given concurrently with a strong CYP3A inhibitor. Avoid concomitant use of Qinlock with strong CYP3A inducers. Monitor patients who ingest grapefruit juice while taking Qinlock. Avoid concomitant use with St. John's wort. Please refer to the full prescribing information before prescribing. Ref. HKPI Nov 2020 [Canadian PM 19 Jun 2020]

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holidays. In the year 2020/21, the service handled around 130,000 calls and traced about 50,000 defaulted cases. It was found that approximately 87% of referred cases were successfully traced and around 63% of these cases had their appointments rebooked within one week.

In view of the ever-increasing service complexity and service demand, the MHD will need to meet such a demand with ongoing service enhancement. In particular, mental health telephony services will further expand, and the service quality will be upheld by strengthening staff training. As information technology plays an essential role in the service, MHD will strive to modernise its services with IT enhancement to ensure the smooth running of the services. The MHD also aims to provide personalised care by using selective modules based on service users' needs.

## OTHER TELEPSYCHIATRY SERVICES IN THE HOSPITAL AUTHORITY

Apart from MHD, Telepsychiatric Doctor Consultation Service has been organised to cater to a specific scope of clinically stable patients in the Custody of Correctional Service Department. The aim is to avoid travel and resultant embarrassment and stigmatisation of patients who must be handcuffed to attend the psychiatric follow-up consultations. There is a strict protocol on the objectives, governance, scope of service, patient selection criteria and workflow. This service model is a typical example of "telepsychiatry in a supervised setting"<sup>1</sup>. Apart from providing teleconsultations in custody, there are also pilot studies exploring teleconsultation to patients residing in Old Age homes and tele-visits by community psychiatric service teams to patients residing in the residential care home for people with disabilities (RCHDs). Further exploration to extend service to patients who are living at home is underway.

## CONCLUSION

The role of telemedicine is expanding in psychiatry. It can be used in various settings, including clinics, call centres, nursing homes and correctional facilities. Telemedicine helps to improve access to mental health care and to assure the continuity of care. While telemedicine has the potential to deliver novel mental health interventions, some administrative issues and limitations in telepsychiatry remain to be addressed.



*Hospital Authority Mental Health Direct Call Centre in Kwai Chung Hospital (Personal collection)*

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# Medical Ethics Considerations on COVID-19 Vaccination in Mentally Incapacitated Persons

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## INTRODUCTION

Is vaccination given in the best interest of the mentally incapacitated persons (MIPs)? This involves thorough consideration about respecting individual autonomy and the protection of vulnerable population. Medical considerations alone do not suffice. Legal and ethical considerations should be involved when determining 1) whether a MIP has the capacity to consent to vaccination, 2) the best interests of a MIP, and 3) the parties that should be involved in a decision. We shall outline these issues in their respective sections. Furthermore, we believe that specific best-practice guidelines may ease the concerns of MIPs, their relatives, caretakers, and medical workers and ensure that MIPs are protected from the virus without violating their autonomy and bodily integrity.

This discussion is important and urgent because MIPs are at a substantially higher risk for COVID-19. Although there are no statistics on the general MIP population, data from residents of care homes show a low vaccination rate of 5% that is most likely similar for MIPs.<sup>2</sup> While there are undoubtedly other reasons for vaccine hesitancy or refusal, explicating and addressing the unique concerns related to the capacity to consent to medical treatment are essential first steps in encouraging vaccination in this substantial but often neglected population.

## DETERMINING CAPACITY TO CONSENT

The term “mentally incapacitated persons” can easily mislead others into believing that individuals who fall under this category lack the capacity to consent to any medical treatment. In reality, mental capacity is a highly variable legal status that shifts depending on the context. A person may have the capacity to make certain decisions but not others, and their ability to do so may also be unstable. The Mental Health Ordinance (Cap 136) (MHO) sets the threshold for incapacity to give medical consent through the ability to understand the general nature and effect of a treatment.<sup>3</sup> In addition, the Prevention and Control of Disease (Use of Vaccines) Regulation (Cap 599K) also imposes a duty to inform the recipient that the vaccine is authorised by the Regulation and has not been registered.<sup>4</sup> Although the MHO test has been criticised for presenting too simplistic a view of capacity, it can provide some guidance for the purposes of COVID-19 vaccination.<sup>1</sup> When construing the two ordinances together, they

seem to require that, in order to be mentally fit to give consent, an individual should understand the existence of the pandemic, the preventative nature and possible side effects of the vaccine, and the statement that the vaccine remains unregistered. As such, the term MIP should be understood, for our purposes, as individuals who may lack the capacity to make medical decisions, and we should avoid biasing the determination of capacity because of the label.

Furthermore, individuals, regardless of their MIP status, should be supported and all practicable steps must be taken to help a person decide before finding them unable to make the decision. This includes communicating in simple language or with the aid of other non-verbal methods or individuals, as well as supporting the person and making them feel at ease.<sup>5</sup> During the pandemic, as MIPs in hospital and residential care home settings have been isolated due to tighten visitation policies, their usual support system may not be available. Discretionary exceptions to non-visitation policy should therefore be considered in the following circumstances<sup>6</sup>: (1) support person(s) for patients with disabilities (for example, patients with cognitive or developmental disabilities who require the presence of a legal guardian), and (2) situations in which having a family member would be of significant benefit to the patient's clinical care (for example, patients with complex or prolonged hospitalisation).

While it is important to recognise that MIPs may have the capacity to consent to / refuse medical treatment, it is equally important for medical professionals to detect cases in which a MIP cannot make a medical decision. Medical professionals are responsible for determining whether their patients are indeed mentally-capable and their consent valid. Past studies have highlighted the difficulties in determining capacity and found that clinicians often overestimate patients' capacity to make medical decisions.<sup>7</sup> As such, practitioners should ensure valid consent is received from the proper source, whether it be the patient or their legal guardian. Finally, despite the wealth of research that demonstrates the benefits of vaccination, relative to its risks, a person should not be deemed unable to make a medical decision simply because they are making an “unwise” decision.

## BEST-INTERESTS CONSIDERATIONS

In the case that a MIP lacks the capacity to make medical decisions, the MHO enables a decision to be made in the best interests of the person. Consent for



a MIP to undergo treatment can be given by a legal guardian who is appointed by the Guardianship Board. If no legal guardian has been appointed, caregivers can assent to treatment. In both cases, the medical treatment must be necessary and serve the best interests of the MIP, namely that it will save the MIP's life, prevent damage or deterioration, or improve the physical or mental health and well-being of the MIP (MHO s.59ZA). Whilst the MHO only provides this narrow definition of best-interests, common law precedent from *Aintree University Hospital NHS Trust v James* states that best-interests include welfare "in the widest sense, not just medical but social and psychological".<sup>8</sup>

Because of the scarce uptake of Guardianship Board applications, most vaccinations will happen via caregiver assent. In these cases, the assent of caregivers does not stand in as consent; a registered medical practitioner can use the assent as guidance to what the MIP would have wanted and determine their best interests (MHO s.59ZF). Specific to the COVID-19 vaccination programme in Hong Kong, assent can presumably be given through the standard consent form for vaccine recipients who are aged below 18 or mentally incapacitated.

As required by both the MHO (s. 59S(3)(b)) and *Wye Valley NHS Trust v B*, when determining best interests, the views, wishes, beliefs and values of patients without capacity should be taken into consideration. Such practice is also crucial for clinical setting, because anxiety over the vaccine can amplify side effects, and one's condition can worsen more easily if they are mentally unprepared to be vaccinated.<sup>9</sup> As suggested above, the wishes of a patient without capacity can be inferred from their caregivers, but the wishes can also come from previous vaccination records. The BioNTech vaccine, specifically, has published full clinical results for those above age 60, which shows a reactogenicity profile comparable to that of influenza vaccines.<sup>10</sup> As a result, it may be reasonable to draw inferences from previous vaccination records. In fact, in *E (vaccine)*, a recent English Court of Protection case, Mr Justice Hayden cited that Mrs E, the person in question, willingly consented to receive a vaccination for swine flu in 2009 - when she had the capacity - to justify the assessment that she would similarly choose to be vaccinated.<sup>11</sup>

## PARTIES INVOLVED IN BEST-INTERESTS DECISIONS

To respect a MIP's autonomy, the process of making a best-interests decision must be focused around the MIP. This means that although other parties may have their different priorities, these priorities should be clearly distinguished. For family members, for example, personal views should not be projected onto the MIP, as the MIP faces a different risk-benefit analysis and may not share the same preferences as their family members. Similarly, medical practitioners should consider the MIP's best interests in order to fulfil their duty of care and respect their patient's autonomy. For MIPs cared in residential settings, residential care staff should also pay attention to the wishes of MIPs, regardless of their capacity to consent to treatment. Furthermore, even

if restraint and sedation may simplify the vaccination process, their use should be carefully scrutinised by caregivers for the potential to compromise autonomy. The Court of First Instance also has a role in the process, as it has the power to give consent in cases of disagreements-among family members, or between family members and medical workers-and to even override a legal guardian's refusal to consent, all while considering the MIP's best interests.

## CONCLUSION

As the coronavirus pandemic continues to afflict much of the world, it is impossible to infinitely isolate those who are disproportionately vulnerable to the virus. As a result, boosting vaccination rates among MIPs and older adults, in general, is an urgent priority. This article outlines a few legal and ethical considerations that supplement the medical ones and should be taken into account. Some of these issues are longstanding ones that require more awareness or significant reforms. Nevertheless, we believe that with clearer guidance on ensuring proper informed consent and providing MIPs with support in understanding the necessary information, we can, for the moment, ease vaccine hesitancy for MIPs and their caregivers and better safeguard their health.

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<sup>2</sup>AP=antipsychotics. References: 1. Emsley R, Chiliza B, Asmal L, et al. BMC Psychiatry. 2013;13:50. 2. Schreiner A, Adamson K, Altamira AC, et al. Schizophrenia Res. 2015;169:393-9. 3. Tiihonen J, Miettinen-Rut E, Mäki M, et al. JAMA Psychiatry. 2017;74:686-93. 4. INVEGA TRINZA® Hong Kong Prescribing Information P03. 5. Gopal S, Xu H, McQuarrie K, et al. NPJ Schizophrenia. 2017;3:23.

**INVEGA SUSTENNA®** Extended-Release Suspension for IM, 1 Injection 50, 75, 100, 150 mg **ABBREVIATED PRESCRIBING INFORMATION ACTIVE INGREDIENT(S):** Paliperidone palmitate. **INDICATION(S):** Schizophrenia in adults. **CONTRAINDICATION(S):** Schizophrenia in adults as monotherapy and as an adjunct to mood stabilizers or antidepressants. **DOSE AND ADMINISTRATION:** IM, use only. For patients naïve to oral paliperidone or oral or injectable risperidone, it is recommended to establish tolerability with oral paliperidone or oral risperidone prior to initiating treatment with **INVEGA SUSTENNA®**. The recommended initiation dose is 150 mg on treatment day 1 and 100 mg one week later, both administered in the deltoid muscle. The recommended monthly maintenance dose is 75 mg; some patients may benefit from lower or higher maintenance doses within the recommended range of 25 to 150 mg based on individual patient tolerability and/or efficacy. 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Manage with immediate discontinuation of antipsychotic drug and other drugs not essential to concurrent therapy; intensive symptomatic treatment and medical monitoring; treatment of any concomitant serious medical problems for which specific treatments are available. **QT Prolongation:** Avoid use with drugs that prolong QTc interval. Also avoid in patients with congenital long QT syndrome and in patients with a history of cardiac arrhythmias. Tardive Dyskinesia: Discontinue drug if clinically appropriate. Metabolic Changes: Atypical antipsychotic drugs have been associated with metabolic changes that may increase cardiovascular/cerebrovascular risk. Hyperprolactinemia: Prolactin elevations occur and persist during chronic administration. Orthostatic Hypotension and Syncope: Use with caution in patients with known cardiovascular or cerebrovascular disease and patients predisposed to hypotension. 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Refer to the full prescribing information for other side effects. **PREGNANCY & LACTATION:** Should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Monitor neonates exhibiting extrapyramidal and/or withdrawal symptoms and manage symptoms appropriately. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need and any potential adverse effects on the breastfed child from **INVEGA SUSTENNA®** or from the mother's underlying condition. Infants exposed to this medicine through breastmilk should be monitored for excess sedation, failure to thrive, jitteriness, and extrapyramidal symptoms (tremor and abnormal muscle movements). **INTERACTIONS:** Drugs that may cause orthostatic hypotension (e.g., nitrates, antihypertensive medicines). Strong inducers of both CYP3A4 and P-gp (e.g., carbamazepine, rifampin, or St. John's Wort). 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**INVEGA TRINZA®** ABBREVIATED PRESCRIBING INFORMATION ACTIVE INGREDIENT(S): Paliperidone palmitate. **INDICATION(S):** A 3-month injection which is indicated for the treatment of schizophrenia in patients after they have been adequately treated with **INVEGA SUSTENNA®** (1-month paliperidone palmitate extended-release injectable suspension) for at least four months. **DOSE AND ADMINISTRATION:** IM, use only by a healthcare professional. Administered once every 3 months. Care should be taken to avoid inadvertent injection into a blood vessel. To be used only after **INVEGA SUSTENNA®** (1-month paliperidone palmitate extended-release injectable suspension) has been established as adequate treatment for at least four months. In order to establish a consistent maintenance dose, it is recommended that the last two doses of **INVEGA TRINZA®** be the same dosage strength before starting **INVEGA TRINZA®**. 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Management should include immediate discontinuation of antipsychotic drugs and other drugs not essential to concurrent therapy; intensive symptomatic treatment and close medical monitoring; treatment of any concomitant serious medical problems. **QT Prolongation:** Avoid use with drugs that prolong QTc interval. Also avoid in patients with congenital long QT syndrome and in patients with a history of cardiac arrhythmias. Tardive Dyskinesia: Discontinue drug if clinically appropriate. Metabolic Changes: Atypical antipsychotic drugs have been associated with metabolic changes that may increase cardiovascular/cerebrovascular risk. Orthostatic Hypotension and Syncope: Use with caution in patients with known cardiovascular or cerebrovascular disease and patients predisposed to hypotension. Monitoring of orthostatic vital signs should be considered in patients who are vulnerable to hypotension. Falls: Somnolence, postural hypotension, motor and sensory instability have been reported with the use of antipsychotics which may lead to falls and consequently fractures or other fall-related injuries. Leukopenia, Neutropenia, and Agranulocytosis: Monitor patients with clinically significant neutropenia for fever or other symptoms or signs of infection and treated promptly if such symptoms or signs occur. Discontinue **INVEGA TRINZA®** in patients with severe neutropenia (absolute neutrophil count <1000/mm<sup>3</sup>) follow their WBC until recovery. Hyperprolactinemia: Prolactin elevations occur and persist during chronic administration. Potential for Cognitive and Motor Impairment: Use caution when performing activities requiring mental alertness. Seizures: Use cautiously in patients with a history of seizures or with conditions that lower the seizure threshold. Dysphagia: Use cautiously in patients at risk for aspiration pneumonia. Priapism: Priapism has been reported with oral paliperidone during postmarketing surveillance. Severe priapism may require surgical intervention. Body Temperature Regulation: Appropriate care to patients experiencing conditions which may contribute to an elevation in core body temperature. Intraoperative Floppy Iris Syndrome (IFIS): Current or past use of medicines with alpha-adrenergic antagonist effect should be made known to the ophthalmic surgeon in advance of surgery. **SIDE EFFECTS:** The most common adverse reactions (incidence ≥ 3% and occurring at least twice as often as placebo) were injection site reaction, weight increased, headache, upper respiratory tract infection, akathisia and parkinsonism. Refer to the full prescribing information for other side effects. **PREGNANCY & LACTATION:** Should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need and any potential adverse effects on the breastfed child from **INVEGA TRINZA®** or from the mother's underlying condition. Infants exposed to **INVEGA TRINZA®** through breastmilk should be monitored for excess sedation, failure to thrive, jitteriness, and extrapyramidal symptoms. **INTERACTIONS:** Drugs with Potential for Inducing Orthostatic Hypotension, Strong CYP3A4/P-glycoprotein (P-gp) Inducers (e.g., carbamazepine, rifampin, or St. John's Wort), Levodopa and Other Dopamine Agonists. **PLEASE REFER TO FULL PRESCRIBING INFORMATION BEFORE PRESCRIBING.** Invega Trinza aP ver.4.0





# Practice of Mindfulness in Response to Covid-19 Pandemic

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## INTRODUCTION

The Covid-19 pandemic has brought along unprecedented mental health challenges. Uncertainties surrounding the disease, treatment options, governmental public health policies and effects of these policies on the economy abound. Healthy stress-coping strategies such as exercising, travelling, and social and religious gatherings have been differentially restricted. A growing body of evidence supports the effectiveness of mindfulness practice on stress reduction. This article aims to overview what mindfulness is, how it might mitigate the stress response precipitated by the current pandemic, and the latest findings in the neuroscience of mindfulness which supports its beneficial effects on mental health.

## WHAT IS MINDFULNESS?

Mindfulness-based stress reduction (MBSR) is an eight-week evidence-based programme that offers secular, intensive mindfulness training to assist people with stress, anxiety, depression and pain.<sup>1</sup> It was developed in the 1970s by Professor Jon Kabat-Zin, who gave the secular definition of mindfulness as 'the awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally.' The practice of mindfulness is in the service of self-understanding and cultivation of wisdom.<sup>2</sup> Mindfulness-based interventions are grouped under what is known as the third wave of cognitive and behavioural psychotherapies. (The first wave being Behavioural Therapy and the second wave being Cognitive Behavioural Therapy). Third-wave Cognitive and Behavioural psychotherapies are more focused on the context, processes, and functions of how a person relates to internal experiences (i.e., thoughts, urges, sensations); and less focused on the thought content themselves.

While mindfulness is an inherent disposition we all possess, it can be enhanced through systematic and repeated practice. Mindfulness has become more accessible since the pandemic. It is now taught via both online and in-person teacher-led 8-week courses such as the MBSR and Mindfulness Based Cognitive Therapy (MBCT); apps such as New Life 330 and Unwinding Anxiety and Headspace; and even through Netflix Series and podcasts. In response to the limitations of physical distancing during lockdown, many esteemed teachers offered online mindfulness retreats. Many are now familiar with formal mindfulness meditations such as mindfulness of the breath, body scan, mindful movement and walking meditations. Everyday activities

can also be conducted mindfully. One can parent mindfully, cook mindfully and clean dishes mindfully. Through cultivating non-judgmental present moment awareness of one's external and internal experiences (such as sounds, sights, taste, body sensations, thoughts, emotions and action tendencies), practitioners often find added richness in their experience while also reckoning the true impermanent nature.

No matter which meditation one does, they all share the seven attitudinal foundations of mindfulness.<sup>1</sup>

**Table 1. The Attitudinal Foundation of Mindfulness Practice. Adapted from Kabat-Zinn J.<sup>1</sup>**

1. Non-judging	Assuming the stance of an impartial witness to your own experience.
2. Patience	Understanding and accepting the fact that sometimes things must unfold in its own time.
3. Beginner's Mind	A mind that is willing to see everything as if for the first time.
4. Trust	Basic trust in oneself and one's feelings, one's authority over always looking outside for guidance.
5. Non-striving	A state of non-doing, not striving for results
6. Acceptance	Seeing things as they actually are in the present.
7. Letting Go	Not attaching to experiences and outcomes that the mind wants to hold on to.

## MINDFULNESS PRACTICE FOR PROTECTING MENTAL HEALTH DURING THE COVID-19 PANDEMIC

Recent meta-analyses have shown mindfulness-based interventions to be useful treatments for reducing distress, anxiety, depression, and stress in both clinical and non-clinical populations.<sup>3</sup> Therefore, mindfulness practice is well placed as a possible method in mitigating pandemic-related stress.<sup>4</sup> A study conducted in February 2020 showed lower scores of pandemic-related distress in mindfulness practitioners compared to non-practitioners.<sup>5</sup> Practice frequency correlated negatively with symptoms of depression and anxiety.

Negative emotions like fear, anxiety, anger and despair were common during the pandemic. Through mindfulness practice, one learns to relate with experiences as transient events in the mind. These are done via 'top-down' processing by affect labelling or 'bottom-up' processing by sensory-perception. Via both

mechanisms, practitioners are better able to decenter from negative emotions. This non-elaborative, non-reactive way of relating to experiences lend mindfulness as an emotion regulation strategy.<sup>6</sup>

A systematic review of MBCT in the treatment of recurrent major depressive disorder found that alterations in mindfulness, ruminations, worries, and meta-awareness were associated with, predicted, or mediated the effects of MBCT interventions.<sup>7</sup> Ruminations are bound to increase in a pandemic like Covid-19. They exacerbate and prolong negative affects such as anxiety and depression. As MBCT has been shown to be effective in reducing rumination in a randomised controlled trial,<sup>8</sup> this could be another mechanism via which mindfulness practice can reduce pandemic-related stress.

Cognitive distortions are thinking patterns that distort information about the environment and what one perceives. They perpetuate the relationship between thinking and feeling. Cognitive distortions related to anxiety states include catastrophising, dichotomous black-or-white thinking and selective abstraction. Such distortions can further perpetuate and increase pandemic-related anxiety levels. While Cognitive Behavioural Therapy is well established in its effectiveness in treating anxiety disorders through cognitive restructuring,<sup>9</sup> MBCT is also effective. Through mindful awareness of the cognitive distortions as thoughts, rather than facts or truths about oneself, they are experienced as less emotionally charged.<sup>10</sup>

The sudden and drastic changes brought about by Covid-19 to every aspect of life could be unpleasant enough in their own rights. Adding to that, the tendency to measure how things are against how we would like things to be, which is discrepancy-based processing, is positively correlated to depression.<sup>11</sup> Mindfulness practice intentionally cultivating non-judgmental acceptance of things as they are in the present moment, no matter pleasant or unpleasant. It reduces depression by letting go of the additional stress brought about by wishing things to be different from how they already are.

The attitude of a beginner's mind invites bringing curiosity to each experience as if for the first time. Practitioners are encouraged to ask themselves 'what is this?' to every experience e.g., 'what does uncertainty feel like in the body at this moment?' These could lead to novel discoveries, creative solutions and positive affect. Long-term mindfulness meditators exhibit higher divergent thinking,<sup>12</sup> which could counteract the sense of despair and hopelessness associated with the pandemic.<sup>13</sup>

## NEUROSCIENCE OF MINDFULNESS

Default mode network (DMN) refers to the brain network that is active when one is at wakeful rest. Studies have demonstrated that DMN is associated with mind-wandering<sup>14</sup> and self-referential processing.<sup>15</sup> Changes in DMN activity have been linked to a number of mental disorders, such as attention deficit hyperactivity disorder,<sup>16</sup> schizophrenia<sup>17</sup> and depression.<sup>18</sup> Meta-analysis supports the observation

of increased activities within the DMN in patients with depression, and the increased activity also correlates with negative rumination.<sup>19</sup> DMN over-activity may underpin self-preoccupation and rumination in depression.

Mindfulness meditation is shown to be helpful in the management of chronic pain,<sup>20</sup> anxiety and depression.<sup>21</sup> Changes in psychological processes, such as improvement in attention, reduction in mind wandering,<sup>22</sup> and changes in the view of self,<sup>23</sup> are implicated. Research studying the relationship between mindfulness and DMN revealed reduced activation in DMN during meditation.<sup>24</sup> Differential activation in DMN could be one of the neural mechanisms underlying mindfulness training, and mediating the improvements in present-moment awareness and modifications in self-referential processing.

Mindfulness practice also improves emotion regulation<sup>25</sup> and reduces stress.<sup>26</sup> Diminished amygdala activation and engagement of fronto-limbic networks, processes involving emotion regulation and stress reduction, were observed in mindfulness meditation.<sup>27</sup> Increased telomerase activity, possibly through a reduction in stress level, was associated with mindfulness meditation and was linked with better immune functioning.<sup>28</sup> Taken together, mindfulness practice could moderate the impact of stress by affecting our brain connection and altering epigenetic responses. Apart from efficacy in the clinical population, there is growing evidence that mindfulness intervention can be effective for subclinical levels of mental ill-health and improve mental well-being in non-clinical samples.<sup>29</sup> Given the heightened stress level associated with the multifaceted consequences of the pandemic, mindfulness may be one of the strategies to cope with the stress and improve our mental well-being.

## SUMMARY

This article gave an overview of secular mindfulness practice, the evidence of its effectiveness in reducing pandemic related stress and the postulated psychological mechanisms. Evidence from neuroscience research on mindfulness provided further support. While the pandemic has been challenging to our mental health, it was also a rare experience shared by all on the planet. Nobody was exempt from the subsequent fear, anxiety and losses. Mindfulness practice could enable us to hold our experience with compassion and resilience, with a clearer understanding of the interconnectedness of our common humanity.

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
5	6	7	1	2	3	4
		* Zoom Live HKMA-HKSH CME Programme 2021-2022 Topic: Multiple Myeloma: the past, the present & the future (Online) * Certificate Course on Communication and Swallowing Development and Disorders in Children 2021 (Video Lectures) * The Hong Kong Neurosurgical Society Monthly Academic Meeting	* Zoom Live Recent updates on the Management of Rheumatoid Arthritis - Online	* Zoom Live Stepping Up Protection for T2DM Patients - SGLT2 Inhibition - Online  * Zoom Live Update on the Management of Chronic Stable Angina - Online * HKSH Symposium on Advances in Cancer Management 2021 - New Horizon in Cancer Management (WEBINAR)	* Zoom Live Management of Osteoarthritis of Knee - Online  * Zoom Live Benefits and Risks of Hormonal Methods of Birth Control - Online	* Physical / Zoom Lecture HKMA Medico-legal Conference 2021 1) Introduction to MCHK's Complaint Investigation and Disciplinary Inquiry Mechanism 2) What is Medical Negligence? Standard of Care for Healthcare Professionals with Recent Case Studies 3) Capacity and Consent 4) Appeal Against Judgments Of Medical Council – Procedures And Case Authorities
12	13	14	15	16	17	18
	* Zoom Live Translating Data To Real Experience In Psoriasis - Online  * Zoom Live Update on Reference Framework for Diabetes Care and Hypertension Care - Online	* Certificate Course on Communication and Swallowing Development and Disorders in Children 2021 (Video Lectures)  * Zoom Live HKMA-GHK CME Programme 2021 - 2022 - Diagnostic Approach To Neck Mass (Online)	* Zoom Live Electronic Device Overuse and Related Orthopaedic Problem - Online  * Zoom Live HKMA-HKSTP CME Lecture - Artificial Intelligence in Healthcare Industry and its Clinical Applications - Online	* Zoom Live Management of Salivary Gland Diseases: From Small to Big, From Stone to Tumour - Online		
19	20	21	22	23	24	25
26	27	28	29	30	31	



Date / Time		Function	Enquiry / Remarks
<b>1</b>	<b>WED</b> 2:00 PM	<b>Zoom Live</b> <b>Recent updates on the Management of Rheumatoid Arthritis - Online</b> Organiser: Hong Kong Medical Association Speaker: Dr. LAW Mei Yan, Clara	HKMA CME Dept Tel: 2865 0943 1 CME Point
<b>2</b>	<b>THU</b> 2:00 PM	<b>Zoom Live</b> <b>Stepping Up Protection for T2DM Patients - SGLT2 Inhibition - Online</b> Organiser: HKMA-KLN East Community Network Speaker: Dr. AU YEUNG Yick Cheung	Ms. Antonia LEE Tel: 2865 0943 1 CME Point
<b>3</b>	<b>FRI</b> 2:00 PM	<b>Zoom Live</b> <b>Management of Osteoarthritis of Knee - Online</b> Organiser: HKMA-Shatin Community Network Speaker: Dr. CHENG Hang Cheong	Ms. Candice TONG Tel: 2865 0943 1 CME Point
<b>4</b>	<b>SAT</b> 1:45 PM	<b>Physical / Zoom Lecture</b> <b>HKMA Medico-legal Conference 2021</b> 1) Introduction to MCHK's Complaint Investigation and Disciplinary Inquiry Mechanism 2) What is Medical Negligence? Standard of Care for Healthcare Professionals with Recent Case Studies 3) Capacity and Consent 4) Appeal Against Judgments Of Medical Council – Procedures And Case Authorities Organiser: Hong Kong Medical Association Speaker: Dr. Hon. CHAN, Pierre, Mr. Woody CHANG, Ms. Christine TSANG and Mr. David KAN Venue: Crystal Ballroom, 2/F, The Cityview, 23 Waterloo Road, Kowloon, Hong Kong	HKMA CME Dept Tel: 2865 0943 3 CME Points
<b>7</b>	<b>TUE</b> 2:00 PM	<b>Zoom Live</b> <b>HKMA-HKSH CME Programme 2021-2022</b> <b>Topic: Multiple Myeloma: the past, the present &amp; the future (Online)</b> Organiser: Hong Kong Medical Association & Hong Kong Sanatorium & Hospital Speaker: Dr. CHIM Chor Sang, James	HKMA CME Dept. Tel: 2865 0943 1 CME Point
	7:00 PM	<b>Certificate Course on Communication and Swallowing Development and Disorders in Children 2021 (Video Lectures)</b> Organiser: The Federation of Medical Societies of Hong Kong & The Hong Kong Association of Speech Therapists Speaker: Dr. Thomas Law	Ms Vienna Lam Tel: 2527 8898
	7:30 PM	<b>The Hong Kong Neurosurgical Society Monthly Academic Meeting</b> Organiser: Hong Kong Neurosurgical Society Speaker: Dr YUEN Pak To, Ryan	Dr Calvin MAK Tel: 2595 6456
<b>8</b>	<b>WED</b> 2:00 PM	<b>Zoom Live</b> <b>Electronic Device Overuse and Related Orthopaedic Problem - Online</b> Organiser: HKMA-Central, Western & Southern Community Network Speaker: Dr. YUEN Chi Pan	Ms. Antonia LEE Tel: 2865 0943 1 CME Point
<b>9</b>	<b>THU</b> 2:00 PM	<b>Zoom Live</b> <b>Update on the Management of Chronic Stable Angina - Online</b> Organiser: HKMA-New Territories West Community Network Speaker: Dr. TAM Kin Ming	Ms. Antonia LEE Tel: 2865 0943 1 CME Point
	7:00 PM	<b>HKSH Symposium on Advances in Cancer Management 2021 - New Horizon in Cancer Management (WEBINAR)</b> Organiser: Hong Kong Sanatorium & Hospital Speakers: Dr. Raymond LIANG, Dr. Edmond MA, Dr. Amy CHANG, Dr. Ben YU	Enquiry: Hong Kong Sanatorium & Hospital Website: <a href="http://www.hksh.com/cms2021">www.hksh.com/cms2021</a>
<b>10</b>	<b>FRI</b> 2:00 PM	<b>Zoom Live</b> <b>Benefits and Risks of Hormonal Methods of Birth Control - Online</b> Organiser: HKMA-YTM Community Network Speaker: Dr. YUK Ying Wah, Judy	Ms. Candice TONG Tel: 2865 0943 1 CME Point
<b>13</b>	<b>MON</b> 2:00 PM	<b>Zoom Live</b> <b>Translating Data To Real Experience In Psoriasis - Online</b> Organiser: Hong Kong Medical Association Speaker: Dr. LOO King Fan, Steven	HKMA CME Dept Tel: 2865 0943 1 CME Point
<b>14</b>	<b>TUE</b> 7:00 PM	<b>Certificate Course on Communication and Swallowing Development and Disorders in Children 2021 (Video Lectures)</b> Organiser: The Federation of Medical Societies of Hong Kong & The Hong Kong Association of Speech Therapists Speaker: Dr. Kathy Lee	Ms Vienna Lam Tel: 2527 8898
<b>17</b>	<b>FRI</b> 2:00 PM	<b>Zoom Live</b> <b>Management of Salivary Gland Diseases: From Small to Big, From Stone to Tumour - Online</b> Organiser: HKMA-KLN City Community Network Speaker: Dr. YEUNG Wing Chi, Zenon	Ms. Candice TONG Tel: 2865 0943 1 CME Point
<b>20</b>	<b>MON</b> 2:00 PM	<b>Zoom Live</b> <b>Update on Reference Framework for Diabetes Care and Hypertension Care - Online</b> Organiser: Hong Kong Medical Association Speaker: Prof. WONG Chi Sang, Martin	HKMA CME Dept. Tel: 2865 0943 1 CME Point
<b>21</b>	<b>TUE</b> 2:00 PM	<b>Zoom Live</b> <b>HKMA-GHK CME Programme 2021 - 2022 - Diagnostic Approach To Neck Mass (Online)</b> Organiser: Hong Kong Medical Association & Gleneagles Hong Kong Hospital Speaker: Dr. WONG Nga Sze, Stephanie	HKMA CME Dept Tel: 2865 0943 1 CME Point
<b>22</b>	<b>WED</b> 2:00 PM	<b>Zoom Live</b> <b>HKMA-HKSTP CME Lecture - Artificial Intelligence in Healthcare Industry and its Clinical Applications - Online</b> Organiser: Hong Kong Medical Association & Hong Kong Science Park Speaker: Prof. Hao CHEN & Mr. Chapman LEE	HKMA CME Dept Tel: 2865 0943 1 CME Point

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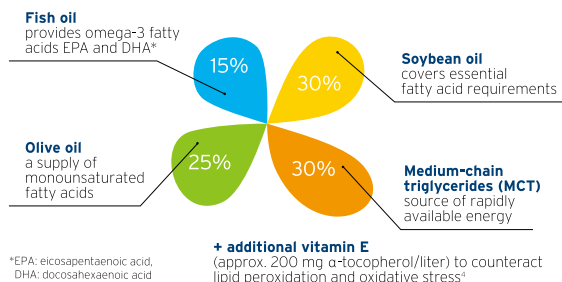
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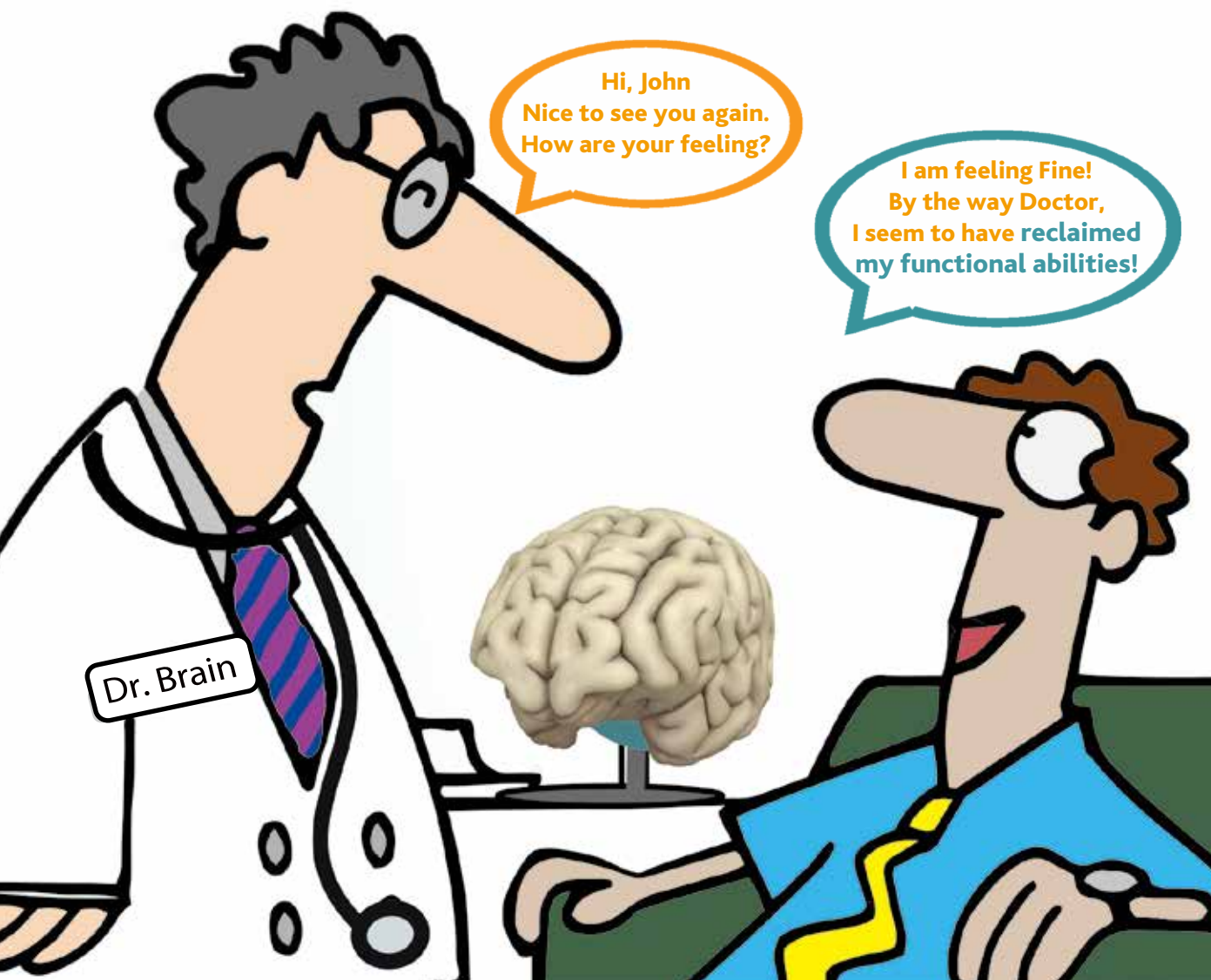


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## Answers to Radiology Quiz

### Answers:

1. Right cerebellopontine angle extra-axial mass.
2. Main differential diagnosis includes vestibular schwannoma and meningioma.
3. Contrast CT brain or contrast MR study  
Both lesions would show enhancement, with the presence of dural tail sign and adjacent hyperostosis being known imaging features of meningioma, while most vestibular schwannomas have an intracanalicular component often with the widening of the internal acoustic meatus.

**Dr Sonia HY LAM**

MBBS, FRCR, FHKCR, FHKAM (Radiology)

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**Betmiga®**  
mirabegron

# The BETStart & Safexit for your LUTS/OAB patients

Start Betmiga® for your elderly patients, a well-tolerated<sup>1</sup> and highly persistent  
avenue for OAB without compromising cognitive function.<sup>2,3</sup>

Day Time Frequency ≥ 8 times

Nocturia ≥ 1 time

Urgency

Abbreviations: LUTS, lower urinary tract symptoms; OAB, overactive bladder

References: 1. Wigg A, et al. Efficacy, safety, and tolerability of mirabegron in patients aged ≥ 65 yr with overactive bladder wet: a phase IV, double-blind, randomised, placebo-controlled study (PILLAR). *Eur Urol*. 2020;77(2):211-20. 2. Griebel TL, et al. Effect of mirabegron on cognitive function in elderly patients with overactive bladder: MxCA results from a phase 4 randomized, placebo-controlled study (PILLAR). *BMC Geriatr*. 2020;20(1):10. 3. Chapple CR, et al. Persistence and adherence with mirabegron versus antimuscarinic agents in patients with overactive bladder: a retrospective observational study in UK clinical practice. *Eur Urol*. 2017;72(3):389-99.

Abbreviated prescribing information of Betmiga® prolonged-release tablets

Version: 003 Composition: Mirabegron Indications: Symptomatic treatment of urgency, increased micturition frequency and/or urgency incontinence as may occur in adult patients with overactive bladder (OAB) syndrome. Dosage: Adult including elderly 50 mg once daily with or without food. Administration: Swallow whole with liquids. Do not chew/divide/crush. Contraindications: Mirabegron is contraindicated in patients with - Hypersensitivity to the active substance or to any of the excipients. - Severe uncontrolled hypertension defined as systolic blood pressure ≥ 180 mm Hg and/or diastolic blood pressure ≥ 110 mm Hg. Special warnings and precautions for use: Renal impairment: Betmiga has not been studied in patients with end stage renal disease (GFR < 15 mL/min/1.73 m<sup>2</sup>) or patients requiring haemodialysis and, therefore, it is not recommended for use in this patient population. Data are limited in patients with severe renal impairment (GFR 15 to 29 mL/min/1.73 m<sup>2</sup>) based on a pharmacokinetic study a dose reduction to 25 mg is recommended for use in patients with severe renal impairment (GFR 15 to 29 mL/min/1.73 m<sup>2</sup>) concomitantly receiving strong CYP2A inhibitors. Hepatic impairment: Betmiga has not been studied in patients with severe hepatic impairment (Child-Pugh Class C) and, therefore, it is not recommended for use in this patient population. Betmiga is not recommended for use in patients with moderate hepatic impairment (Child-Pugh B) concomitantly receiving strong CYP2A inhibitors. Hypertension: Mirabegron can increase blood pressure. Blood pressure should be measured at baseline and periodically during treatment with Betmiga, especially in hypertensive patients. Data are limited in patients with stage 2 hypertension (systolic blood pressure ≥ 160 mm Hg or diastolic blood pressure ≥ 100 mm Hg). Patients with congenital or acquired QT prolongation: Betmiga, at therapeutic doses, has not demonstrated clinically relevant QT prolongation in clinical studies. However, since patients with a known history of QT prolongation or patients who are taking medicinal products known to prolong the QT interval were not included in these studies, the effects of mirabegron in these patients is unknown. Caution should be exercised when administering mirabegron in these patients. Patients with bladder outlet obstruction and patients taking antimuscarinic medications for OAB: Urinary retention in patients with bladder outlet obstruction (BOO) and in patients taking antimuscarinic medications for the treatment of OAB has been reported in postmarketing experience in patients taking mirabegron. A controlled clinical safety study in patients with BOO did not demonstrate increased urinary retention in patients treated with Betmiga; however, Betmiga should be administered with caution to patients with clinically significant BOO. Betmiga should also be administered with caution to patients taking antimuscarinic medications for the treatment of OAB. Undesirable effects: Summary of the safety profile: The safety of Betmiga was evaluated in 6,435 patients with OAB, of which 5,646 received at least one dose of mirabegron in the phase 2b clinical program, and 622 patients received Betmiga for at least 1 year (365 days). In the three 12-week phase 3 double-blind, placebo-controlled studies, 86% of the patients completed treatment with Betmiga, and 4% of the patients discontinued due to adverse events. Most adverse reactions were mild to moderate in severity. The most common adverse reactions reported for patients treated with Betmiga 50 mg during the three 12-week phase 3 double-blind, placebo-controlled studies are tachycardia and urinary tract infections. The frequency of tachycardia was 12% in patients receiving Betmiga 50 mg. Tachycardia led to discontinuation in 0.1% patients receiving Betmiga 50 mg. The frequency of urinary tract infections was 2.2% in patients receiving Betmiga 50 mg. Urinary tract infections led to discontinuation in none of the patients receiving Betmiga 50 mg. Serious adverse reactions included atrial fibrillation (0.2%). Adverse reactions observed during the 1-year (long term) active controlled (muscarinic antagonist) study were similar in type and severity to those observed in the three 12-week phase 3 double-blind, placebo-controlled studies. List of adverse reactions: The table below reflects the adverse reactions observed with mirabegron in the three 12-week phase 3 double-blind, placebo-controlled studies. The frequency of adverse reactions is defined as follows: very common (≥1/10), common (≥1/100 to <1/10), uncommon (≥1/1,000 to <1/100), rare (≥1/10,000 to <1/1,000), very rare (<1/10,000). Within each frequency grouping, adverse reactions are presented in order of decreasing seriousness. Infections and infestations: Common: Urinary tract infection. Uncommon: Vaginal infection, Cystitis. Psychiatric disorders: Not known (cannot be estimated from the available data). Insomnia. Eye disorders: Rare: Eyelid oedema. Cardiac disorders: Common: Tachycardia. Uncommon: Palpitation, Atrial fibrillation. Vascular disorders: Very rare: Hypertensive crisis. Gastrointestinal disorders: Common: Nausea, Constipation, Diarrhoea. Uncommon: Dyspepsia, Gastritis. Rare: Lip oedema. Skin and subcutaneous tissue disorders: Uncommon: Urticaria, Rash, Rash macular, Rash papular, Purpura. Rare: Leucocytoclastic vasculitis, Purpura, Angioedema. Musculoskeletal and connective tissue disorders: Uncommon: Joint swelling. Reproductive system and breast disorders: Uncommon: Vulvovaginal pruritus. Investigations: Uncommon: Blood pressure increased, GGT increased, ALT increased, AST increased, Renal and urinary disorders: Rare: Urinary retention. Nervous system disorders: Common: Headache, Dizziness\* \*observed during post-marketing experience Full prescribing information is available upon request.



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