Post-COVID-19
A Mental Health Perspective

BC ECHO for Post-COVID-19 Recovery

Dr. Grant Millar MD, FRCPC
December 14, 2021

Project ECHO
BC ECHO for Post-COVID-19 Recovery

Accredited by UBC CPD
UBC CONTINUING PROFESSIONAL DEVELOPMENT FACULTY OF MEDICINE

BRITISH COLUMBIA | doctors of bc | SharedCare Partners for Patients | DEPARTMENT OF FAMILY MEDICINE | Leaders in primary care, champions of community health

Disclosures

- **No disclosures or conflicts of interest**

Learning objectives

- Review the impact of the global COVID-19 pandemic on population mental health in Canada
- Explore pathophysiological and other mechanisms related to COVID-19 infection and psychiatric illness
- Describe the mental health sequelae of COVID-19 infection
- Define assessment and treatment approaches for the most common psychiatric presentations in the Post-COVID-19 patient population

Canadian mental health - pre-pandemic

- Everyone has mental health and will experience challenges regarding their mental well-being, but not everyone will experience a mental illness.
- In any given year, 1 in 5 people in Canada will personally experience a mental health problem or illness.
- By age 40, about 50% of the population will have or have had a mental illness.
- Mental illness affects people of all ages, education, income levels, and cultures; however, systemic inequalities such as racism, poverty, homelessness, discrimination, colonial and gender-based violence, among others, can worsen mental health and symptoms of mental illness, especially if mental health supports are difficult to access.

Canadian mental health - pre-pandemic

- Major depression affects approximately 5.4% of the Canadian population, and anxiety disorders affect 4.6% of the population.
- About 1% of Canadians will experience bipolar disorder and another 1% will experience schizophrenia.
- Eating disorders affect approximately 1 million Canadians – between 0.3-1% of the population. They impact women at a rate ten times that of men, and have the highest rate of mortality of any mental illness.
- Substance use disorders affect approximately 6% of Canadians

Impact of COVID-19 on mental health in the general Canadian population

Spring 2021 (February to May 2021)

	Positive screen for:			
	MDD	GAD	PTSD	At least 1 disorder
Overall	19*	15*	7	25*
18 to 24 years	36	23	13	41
25 to 44 years	23*	20*	9	32*
45 to 64 years	16*	13	7	22*
65 years and older	8	6	3	12

Statistics Canada, The Daily – September 27, 2021

COVID-19 pandemic and substance use

Percentage change in ED visits and hospitalizations, March – Sept 2020 compared to 2019

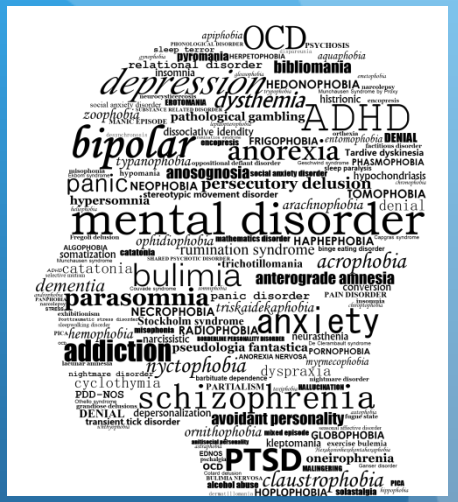
Month	% change in ED visits for any reason	% change in ED visits for all substances	% change in hospitalizations for any reason	% change in hospitalizations for all substances
March	- 24%	- 12%	- 11%	1%
April	- 49%	- 23%	- 33%	- 15%
May	- 33%	-7 %	- 25%	2%
June	- 21%	1%	- 12%	17%
July	- 15%	7%	- 3%	14%
August	- 13%	- 2%	- 7%	7%
September	- 15%	- 1%	- 6%	10%

Unintended Consequences of COVID-19: Impact on Harms Caused by Substance Use - CIHI

COVID-19 pandemic and other disorders

- Patients with mental health disorders were nearly twice as likely (1.8 times) to die from Covid-19 than patients without them

- Patients with severe mental health disorders like schizophrenia and bipolar disorder were at particularly high risk of dying from Covid-19, being more than twice as likely (2.3 times) to die than patients without mental health issues.



Fond et al, JAMA Psychiatry, July 2021

- Increased prevalence of eating disorders amongst youth and increased severity of illness in both youth and adult populations

National Eating Disorders Association

COVID-19 pandemic and suicide

- In high-income and upper-middle-income countries, suicide numbers have remained largely unchanged or declined in the early months of the pandemic compared with the expected levels based on the pre-pandemic period.

Pirkis et al, Lancet Psychiatry, July 2021

- Provisional data for 2020 show that despite the increase in some risk factors associated with suicidal behavior during 2020 (4,5), the number of suicides in the United States appeared to decline in 2020 by 3% compared with 2019.
  - Rates increased for males 10-14 and 25-34, females 15-24 and persons of colour

Curtin et al, Division of Vital Statistics, CDC, November 2021

Mechanisms related to COVID-19 infection and psychiatric illness

- Individuals exposed to COVID-19 are already at heightened risk of depression, anxiety and other illnesses given elevated baseline risk to society
- Additional risk factors related to acute COVID-19 illness:
  - Impact on general state of health, loss of function (physical, neurocognitive), medical demoralization, loss of income/employment, grief

BC ECHO for Post-COVID-19 Recovery

Mechanisms related to COVID-19 infection and psychiatric illness

- Pathophysiological considerations
  - ? Direct viral infection
  - ? Severe systemic inflammation
  - ? Neuroinflammation
  - ? Microvascular thrombosis
  - ? Neurodegeneration

Nalbandian *et al*, Nature Medicine, April 2021

- ? Mitochondria role

What is Post-COVID-19

- Post acute sequelae of COVID19 (PASC – research term)
- Long COVID
- Long-haul COVID
- Post-acute COVID syndrome
- Chronic COVID
- Post-COVID-19
- (Myalgic encephalomyelitis/chronic fatigue syndrome?)

What is Post-COVID-19

- Definition from the CDC
  - Broad range of symptoms (physical and mental) that develop during or after COVID-19, continue for ≥ 4 weeks, and are not explained by an alternative diagnosis

Muscle pain or headache

Memory, concentration or sleep problems

Fast or pounding heartbeat

Fatigue

Cough

Dizziness when you stand

Chest pain

Shortness of breath or difficulty breathing

Depression or anxiety

Joint pain

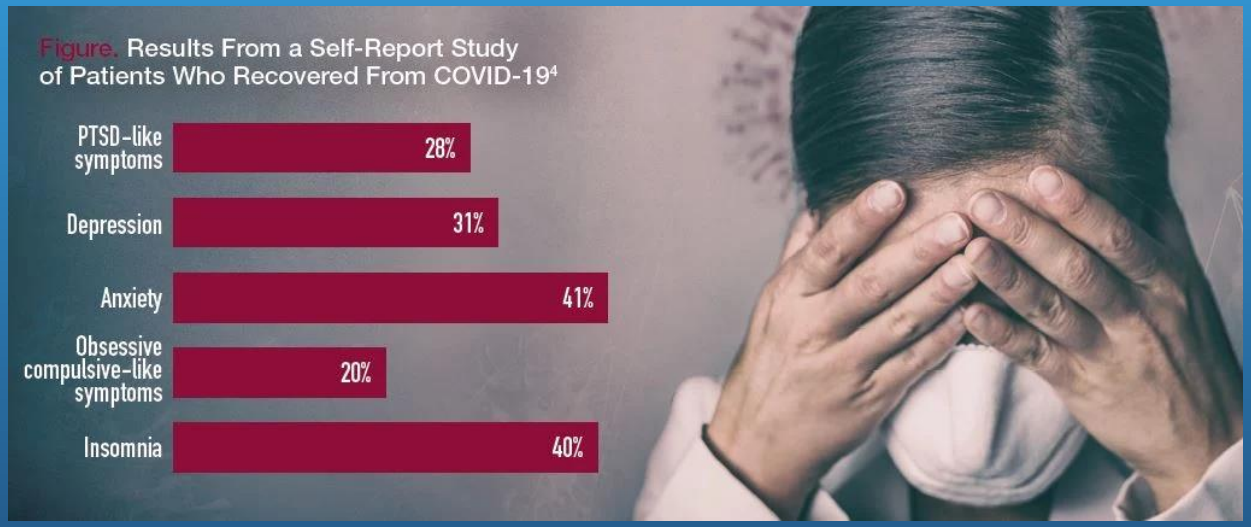
Loss of smell or taste

Fever

Worsened symptoms after physical or mental activities

Post-COVID-19 and psychiatric illness

- Cohort study of 402 adult survivors of COVID-19
  - Screened for depression, anxiety, PTSD, OCD and insomnia



- 56% - at least 1 condition
- 37% - 2 conditions
- 21% - 3 conditions
- 10% - 4 or more of above conditions

Mazza *et al*, Brain Behavior and Immunity, October 2020 (online July 2020)

Post-COVID-19 and psychiatric illness

- Systematic review - identified 1725 unique studies when searching medical databases for psychiatric sequelae in COVID 19 patients, 66 met inclusion criteria:

  - Depression (47 studies): 0 – > 30%
  - Anxiety (47 studies): 0 – > 30%
  - PTSD (20 studies): 6.5 – 42.8%


Brain, Behavior, and Immunity 97 (2021) 328–348

Contents lists available at ScienceDirect

Brain Behavior and Immunity

journal homepage: www.elsevier.com/locate/ybrbi

Review Article

Psychiatric and neuropsychiatric sequelae of COVID-19 – A systematic review

Thor Mertz Schou [a], Sania Joca [b], Gregers Wegener [a], Cecilie Bay-Richter [a,*]

[a] Translational Neuropsychiatry Unit, Department of Clinical Medicine, Aarhus University, 8000 Aarhus C, Denmark
[b] Department of Biomedicine, Aarhus University, 8000 Aarhus C, Denmark

- Risk factors: previous psychiatric history, female gender, severity of infection / acute illness, duration of hospitalization, functional impairment post-acute infection

Mertz Schou *et al*, Brain Behavior and Immunity, October 2021

Assessment

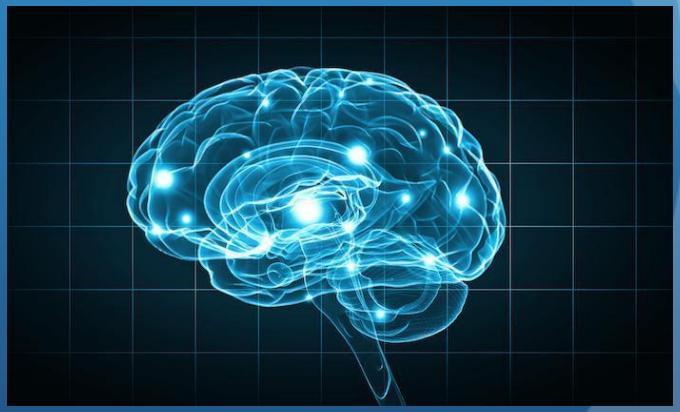
- Through the local Post-Covid-19 Recovery Clinics pts are initially screened for 7 broad domains of psychopathology
  - Anxiety – Generalized Anxiety Disorder - 2
  - Depression – Patient Health Questionnaire -2
  - Substance use – CAGE Adapted to Include Drugs
  - OCD Sx
  - Mania
  - Psychosis

    } Questions adapted from MINI Screen
  - PTSD - Primary Care PTSD screen for DSM-5

- All questions begin "During the last 2 weeks…"
- Any positive screen would lead to a Psychiatry referral

Assessment continued

- If screen positive follow up with more definitive screen and further clinical assessment
  - Depression – QIDS-SR16
    - 16 questions, score range 0 – 27
    - 6-10 mild, 11-15 moderate, 16-20 severe, 21-27 very severe
  - Anxiety – GAD-7
    - 7 questions, score range 0 -21
    - 5-9 mild, 10-14 moderate, >15 severe
  - PTSD – PCL-5
    - 20 questions, score range 0 – 80
    - Cut-off score = 33



- Don’t forget to screen for ideation of self-harm, suicide or homicide

BC ECHO for Post-COVID-19 Recovery

Management considerations

Post-COVID-19
Interdisciplinary Clinical Care Network
Recovery | Care | Research | Education

- A bidirectional relationship between mental and somatic symptoms may complicate recovery; a holistic approach is needed to support patients with "long-COVID".
- As best as possible, address other common physical symptoms of long-COVID that may contribute to mental health symptoms. Recommend pacing strategies (similar to those suggested for ME/CFS or post-concussion) as appropriate.
- The majority of long-COVID patients with mental health symptoms do not meet DSM5 criteria for a psychiatric disorder, but patients should still be supported in managing these symptoms to facilitate recovery.
- For patients that had COVID19, assess & manage new or recurrent psychiatric disorders as per normal guidelines.

Key points – the art of the interview

- Listen with empathy, compassion and curiosity
  - There is a high likelihood many others do not understand or even believe what your patient is going through
- Validate the patient's experience
- Individualize care for your specific patient

BC ECHO for Post-COVID-19 Recovery

Key points – grounding skills

- Help manage distress by turning attention away from thoughts, memories, worries, flashbacks and refocus on the present moment
- 5-4-3-2-1 technique (using your senses)
- Categories – list as many items from each
- Body awareness – focus on a single part or sequentially
- Mental exercises – be creative
  - Name all the objects you can see
  - Describe the steps in performing an activity
  - Count backwards from 100 by 7
  - Pick up an object and describe it in detail
  - Read something backwards letter by letter
  - Think of an object and draw it in your mind or in the air with your finger

Key points – building resilience

- Strive to be positive
- Learn from your challenges
- Have role models of resilience
- Find your moral centre
- Have a purpose in life
- Use humor
- Foster flexibility
- Develop a “tap code”

Dr. Dennis Charney, Dean - Icahn School of Medicine at Mount Sinai, New York

Key points – social/behavioral activation

Depressed

Inactivity

Fewer opportunities for positive and rewarding things

Key points – social/behavioral activation

- Incredibly important yet incredibly difficult to do during times of ever changing restrictions in a pandemic
  - Doing things we enjoy gives us feelings of pleasure
  - Challenging ourselves means that we have a chance to grow and develop, and gives us a sense of accomplishment
  - Having positive relationships with other people makes us feel connected and valued

- Monitor our daily activities; identify our goals and values; schedule and carry out meaningful activities; problem solve any barriers; increase social connection

BC ECHO for Post-COVID-19 Recovery

Clinical case #1

- 44yo woman from Lower Mainland, no previous psychiatric hx, was travelling to more rural location to help with family farm
- Uncertain how infected with COVID, was briefly hospitalized (no ICU), thereafter developed persistent symptoms including fatigue, SOB, loss of taste/smell, insomnia, all of which gradually improved over 6 months (or sooner)
- Did not endorse depression on PCRC clinical assessment but did screen positive for same, referred to psychiatry
- Dx confirmed for Adjustment disorder with mixed anxiety and depressed mood, pt open to trial of low-dose clonazepam 0.5mg QHS for sleep / ruminations and symptoms improved within 2 weeks

Clinical case #1

- Over next 4 weeks her mood acutely worsened and ultimately a diagnosis of MDD was made
- Pt was started on an SSRI (escitalopram 5 mg, titrated up to 10 mg over 4 weeks) with improvement in sleep, energy, appetite but guilt and ruminations persisted
- Pt was being ostracized / disavowed by her family for having COVID, which rekindled past traumas related to acceptance (or lack thereof)
- Brief course of psychotherapy with senior resident, MSE improved as gained understanding and awareness, family relationships remained strained

Clinical case #2

- 36yo man from Lower Mainland, exployed in finance, previously healthy, no formal hx of psychiatric illness
- Most likely acquired COVID through a social gathering, relatively benign course, however complicated longer term by Post-COVID-19 symptoms including fatigue, brain fog, post-exertional malaise and anxiety
- Referred to psychiatry and dx of GAD / OCPD traits confirmed, both likely longstanding
- Pt initially reluctant to trial a medication, more open instead to CBT approach, including workbook, apps and telehealth psychotherapy

Clinical case #2

- No improvement over first month, brain fog remained a significant barrier
- Adapted CBT approach to shorter but more frequent sessions, increased time doing homework in sessions, increased thought records and other logs
- Eventually agreed to trial of SSRI (sertraline), which decreased intensity of anxiety response such that could more actively participate with rehab team (physiatry, OT, physio and others)
- As cognition improved anxiety resolved and eventually returned to work – recommend staying on SSRI for further 6 months

Clinical case #3

- 58yo woman, HCW (care aide in LTC)
- Unclear if infected with COVID through work (more likely) or community (less likely)
- Pt had a relatively mild course of acute illness but unfortunately another family member who contracted COVID died from infection complications
- Seen through PCRC (fatigue, SOB, cough, chest pain, insomnia) and referred to psychiatry for positive anxiety screen

Clinical case #3

- Diagnosed with PTSD
  - Intense fear of dying with persistent SOB
  - Intrusive memories, flashbacks
  - Extreme guilt, fear, anger outbursts
  - Isolating, feeling detached, diminished interests, poor concentration, insomnia
  - Fear of return to the workplace, animosity towards employer
- Treated with combination of medication (sertraline) and psychotherapy
  - Interoceptive therapy – hyperventilation, breathe through a straw
  - Cognitive and narrative therapy
  - Exposure therapy for return to work

Feedback from patients

- Acknowledge suffering, offer affirmation and validation
- Ensure patient has understanding of diagnosis and what improvement looks like; track improvement
- Help patient learn “triggers” and protective factors
- Help patient create “toolkit” for when feeling distressed or unsafe
  - Mindful breathing, grounding skills, mantras/scripts, support people
- Support patient with daily routine, can include meditation, journaling, worry time, sleep schedule, nutrition schedule, social connection

Feedback from patients

- If associated brain fog help patient consider strategies such as time-boxing, modify environment to be less bright / loud if necessary, dim screen, turn off zoom camera; clinician to provide info in small/repeated pieces
- Have awareness of a patient's "energy envelope"
- Have awareness of the pros/cons of virtual appointments as relate specifically to your patient
- Encourage patient to seek support while recovering at home and prior to return to work

Return to work considerations

- Graduated exposure may be helpful, in particular if infection acquired at work environment

- Post-COVID-19 Care and Recovery (patient resources)
  - http://www.phsa.ca/health-info/post-covid-19-care-recovery

- Returning to work
  - https://www.youtube.com/watch?v=beKcWMlGpc4

Resources

Post-COVID-19
Interdisciplinary Clinical Care Network
Recovery | Care | Research | Education

- **Web Resources**
  - Anxiety Canada - COVID19: www.anxietycanada.com/covid-19/
  - Here to Help - COVID19: www.heretohelp.bc.ca/infosheet/covid-19-and-anxiety
  - Foundry (for Ages 12 - 24): www.foundrybc.ca/covid19/
  - Calm - Videos for meditation & relaxation: www.youtube.com/c/calm

- **Mobile Apps**
  - Free for iOS & Android- Be sure to enable notifications/reminders where available!
  - Mindshift CBT (Anxiety focus), COVID Coach, Woebot (Chatbot) , Wysa (Chatbot & *optional* paid chat therapist), Breathr, Mindfulness Coach, Insomnia Coach

Resources

- Books
  - Mind over Mood (Greenberger and Padesky)
  - The Anxiety and Phobia Workbook (Bourne)
  - Overcoming Trauma and PTSD: a Workbook Integrating Skills from ACT, DBT and CBT (Raja)

- Access to counselling and other supports
  - https://www2.gov.bc.ca/gov/content/health/managing-your-health/mental-health-substance-use/virtual-mental-health-supports
  - cbtskills.ca – 8-week group medical visit for adults (virtual)

gmillar@providencehealth.bc.ca

Appendices

1. Screening

PCRC initial screen

Patient Name:

DOB:

Date:

Post COVID Interdisciplinary Care Clinic - Psychiatry Screen

Thank you for completing the questions below. They help us understand any mental health needs you may have following your experience with COVID19 disease. Your responses will be evaluated by our mental health team who will arrange for a follow-up if needed. **Please answer each of the following questions by circling an answer based on what you have been feeling and experiencing during the last two 2 weeks.**

During the last 2 weeks:	Please circle ONE	Clinician Use Only: Item Score	Clinician Use Only: Screen Score
How often have you been feeling nervous, anxious or on edge?	Not at all Several days More than half of the days Nearly every day	0 1 2 3	
How often have you not been able to stop or control your worrying?	Not at all Several days More than half of the days Nearly every day	0 1 2 3	≥3 Total Anxiety
How often have you experienced little interest or pleasure in doing things?	Not at all Several days More than half of the days Nearly every day	0 1 2 3	
How often have you been feeling down, depressed or hopeless?	Not at all Several days More than half of the days Nearly every day	0 1 2 3	≥3 Total Depression
Have you ever felt that you ought to cut down on your drinking or drug use?	Yes No	✓ ×	
Have people annoyed you by criticizing your drinking or drug use?	Yes No	✓ ×	✓To any question Substance Use
Have you ever felt bad or guilty about your drinking or drug use?	Yes No	✓ ×	
Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover?	Yes No	✓ ×	

During the last 2 weeks:	Please circle ONE	Clinician Use Only: Item Score	Clinician Use Only: Screen Score
Have you had frequent unwanted thoughts that seem difficult to control?	Yes No May be/Not sure	✓ × ✓	≥ 1 ✓ OCD
Have you felt an urge that was difficult to control to repeat actions (e.g., washing, checking)?	Yes No May be/Not sure	✓ × ✓	
Have you felt very happy or irritable for time periods lasting at least 2 days?	Yes No May be/not sure	✓ × ✓	≥ 1 ✓ Mania
Have you felt full of energy for time periods lasting at least 2 days?	Yes No May be/not sure	✓ × ✓	
Have you thought that other people are plotting against you or are trying to hurt you?	Yes No May be/not sure	✓ × ✓	≥ 1 ✓ Psychosis
Have you noticed any unusual experiences – like hearing or seeing things other people couldn't or when other people are not present?	Yes No May be/not sure	✓ × ✓	

The following questions refer specifically to any traumatic experiences you may have ever had including your hospital stay for COVID19 disease or any other traumatic event During the last 2 weeks	Please circle	Clinician Use only: Item Score	Clinician Use only: Screen Score
Had nightmares about these events or thought about these events when you did not want to?	Yes No	1 0	
Tried hard not to think about these events or went out of your way to avoid situations that reminded you of these events?	Yes No	1 0	
Been constantly on guard, watchful, or easily startled?	Yes No	1 0	≥3 Total PTSD
Felt numb or detached from people, activities, or your surroundings?	Yes No	1 0	
Felt guilty or unable to stop blaming yourself or others for these events or any problems the event may have caused?	Yes No	1 0	

BC ECHO for Post-COVID-19 Recovery

QIDS-SR16

QIDS-SR16 1-3

QUICK INVENTORY OF DEPRESSIVE SYMPTOMATOLOGY (SELF-REPORT)

THIS SECTION FOR USE BY STUDY PERSONNEL ONLY.

Questionnaire completed on visit date ☐ **or** specify date completed: _____ (DD-Mon-YYYY)

Only the patient (subject) should enter information onto this questionnaire.

PLEASE CHECKMARK THE ONE RESPONSE TO EACH ITEM THAT IS MOST APPROPRIATE TO HOW YOU HAVE BEEN FEELING OVER THE PAST 7 DAYS.

1. Falling asleep:
- ☐0 I never took longer than 30 minutes to fall asleep.
- ☐1 I took at least 30 minutes to fall asleep, less than half the time (3 days or less out of the past 7 days).
- ☐2 I took at least 30 minutes to fall asleep, more than half the time (4 days or more out of the past 7 days).
- ☐3 I took more than 60 minutes to fall asleep, more than half the time (4 days or more out of the past 7 days).

2. Sleep during the night:
- ☐0 I didn't wake up at night.
- ☐1 I had a restless, light sleep, briefly waking up a few times each night.
- ☐2 I woke up at least once a night, but I got back to sleep easily.
- ☐3 I woke up more than once a night and stayed awake for 20 minutes or more, more than half the time (4 days or more out of the past 7 days).

3. Waking up too early:
- ☐0 Most of the time, I woke up no more than 30 minutes before my scheduled time.
- ☐1 More than half the time (4 days or more out of the past 7 days), I woke up more than 30 minutes before my scheduled time.
- ☐2 I almost always woke up at least one hour or so before my scheduled time, but I got back to sleep eventually.
- ☐3 I woke up at least one hour before my scheduled time, and couldn't get back to sleep.

4. Sleeping too much:
- ☐0 I slept no longer than 7-8 hours/night, without napping during the day.
- ☐1 I slept no longer than 10 hours in a 24-hour period including naps.
- ☐2 I slept no longer than 12 hours in a 24-hour period including naps.
- ☐3 I slept longer than 12 hours in a 24-hour period including naps.

5. Feeling sad:
- ☐0 I didn't feel sad.
- ☐1 I felt sad less than half the time (3 days or less out of the past 7 days).
- ☐2 I felt sad more than half the time (4 days or more out of the past 7 days).
- ☐3 I felt sad nearly all of the time.

EPI0905.QIDSSR

Canada (English)

QIDS-SR16 2-3

QUICK INVENTORY OF DEPRESSIVE SYMPTOMATOLOGY (SELF-REPORT)

PLEASE CHECKMARK THE ONE RESPONSE TO EACH ITEM THAT IS MOST APPROPRIATE TO HOW YOU HAVE BEEN FEELING OVER THE PAST 7 DAYS.

Please complete either 6 or 7 (not both)

6. Decreased appetite:
- ☐0 There was no change in my usual appetite.
- ☐1 I ate somewhat less often or smaller amounts of food than usual.
- ☐2 I ate much less than usual and only by forcing myself to eat.
- ☐3 I rarely ate within a 24-hour period, and only by really forcing myself to eat or when others persuaded me to eat.

7. Increased appetite:
- ☐0 There was no change in my usual appetite.
- ☐1 I felt a need to eat more frequently than usual.
- ☐2 I regularly ate more often and/or greater amounts of food than usual.
- ☐3 I felt driven to overeat both at mealtime and between meals.

Please complete either 8 or 9 (not both)

8. Decreased weight (within the last 14 days):
- ☐0 My weight has not changed.
- ☐1 I feel as if I've had a slight weight loss.
- ☐2 I've lost 2 pounds (about 1 kilo) or more.
- ☐3 I've lost 5 pounds (about 2 kilos) or more.

9. Increased weight (within the last 14 days):
- ☐0 My weight has not changed.
- ☐1 I feel as if I've had a slight weight gain.
- ☐2 I've gained 2 pounds (about 1 kilo) or more.
- ☐3 I've gained 5 pounds (about 2 kilos) or more.

10. Concentration/decision-making:
- ☐0 There was no change in my usual ability to concentrate or make decisions.
- ☐1 I occasionally felt indecisive or found that my attention wandered.
- ☐2 Most of the time, I found it hard to focus or to make decisions.
- ☐3 I couldn't concentrate well enough to read or I couldn't make even minor decisions.

11. Perception of myself:
- ☐0 I saw myself as equally worthwhile and deserving as other people.
- ☐1 I put the blame on myself more than usual.
- ☐2 For the most part, I believed that I caused problems for others.
- ☐3 I thought almost constantly about major and minor defects in myself.

12. Thoughts of my own death or suicide:
- ☐0 I didn't think of suicide or death.
- ☐1 I felt that life was empty or wondered if it was worth living.
- ☐2 I thought of suicide or death several times for several minutes over the past 7 days.
- ☐3 I thought of suicide or death several times a day in some detail, or I made specific plans for suicide or actually tried to take my life.

EPI0905.QIDSSR

Canada (English)

QIDS-SR16

QIDS-SR16 3-3

QUICK INVENTORY OF DEPRESSIVE SYMPTOMATOLOGY (SELF-REPORT)

PLEASE CHECKMARK THE ONE RESPONSE TO EACH ITEM THAT IS MOST APPROPRIATE TO HOW YOU HAVE BEEN FEELING OVER THE PAST 7 DAYS.

13. General interest:
- ☐0 There was no change from usual in how interested I was in other people or activities.
- ☐1 I noticed that I was less interested in other people or activities.
- ☐2 I found I had interest in only one or two of the activities I used to do.
- ☐3 I had virtually no interest in the activities I used to do.

14. Energy level:
- ☐0 There was no change in my usual level of energy.
- ☐1 I got tired more easily than usual.
- ☐2 I had to make a big effort to start or finish my usual daily activities (for example: shopping, homework, cooking or going to work).
- ☐3 I really couldn't carry out most of my usual daily activities because I just didn't have the energy.

15. Feeling more sluggish than usual:
- ☐0 I thought, spoke, and moved at my usual pace.
- ☐1 I found that my thinking was more sluggish than usual or my voice sounded dull or flat.
- ☐2 It took me several seconds to respond to most questions and I was sure my thinking was more sluggish than usual.
- ☐3 I was often unable to respond to questions without forcing myself.

16. Feeling restless (agitated, not relaxed, fidgety):
- ☐0 I didn't feel restless.
- ☐1 I was often fidgety, wringing my hands, or needed to change my sitting position.
- ☐2 I had sudden urges to move about and was quite restless.
- ☐3 At times, I was unable to stay seated and needed to pace around.

Rush et al, Biol Psychiatry (2003) 54: 573-83.

EPI0905.QIDSSR

I confirm this information is accurate.	Patient's/Subject's initials:	Date:

Canada (English)

QIDS-SS

QUICK INVENTORY OF DEPRESSIVE SYMPTOMATOLOGY (SCORE SHEET)

NOTE: THIS SECTION IS TO BE COMPLETED BY THE STUDY PERSONNEL ONLY.

_____ Enter the highest score on any 1 of the 4 sleep items (1-4)

_____ Item 5

_____ Enter the highest score on any 1 of the appetite/weight items (6-9)

_____ Item 10

_____ Item 11

_____ Item 12

_____ Item 13

_____ Item 14

_____ Enter the highest score on either of the 2 psychomotor items (15 and 16)

_____ **Total Score (Range: 0-27)**

Rush et al, Biol Psychiatry (2003) 54: 573-83.

EPI0905.QIDSSR

Canada (English)

BC ECHO for Post-COVID-19 Recovery

GAD-7

Generalized Anxiety Disorder 7-item (GAD-7) scale

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all sure	Several days	Over half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it's hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
Add the score for each column	+	+	+	
Total Score *(add your column scores)* =				

PCL-5

		Not at all	A little bit	Moderately	Quite a bit	Extremely
1.	Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2.	Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3.	Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4.	Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5.	Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6.	Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7.	Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8.	Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9.	Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10.	Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11.	Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12.	Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13.	Feeling distant or cut off from other people?	0	1	2	3	4
14.	Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15.	Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16.	Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17.	Being "superalert" or watchful or on guard?	0	1	2	3	4
18.	Feeling jumpy or easily startled?	0	1	2	3	4
19.	Having difficulty concentrating?	0	1	2	3	4
20.	Trouble falling or staying asleep?	0	1	2	3	4

2. Clinical Practice Guidelines

The Canadian Journal of Psychiatry / La Revue Canadienne de Psychiatrie
1–4
© The Author(s) 2016
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0706743716659061
TheCJP.ca | LaRCP.ca
SAGE

Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Introduction and Methods

Raymond W. Lam, MD[1*], Sidney H. Kennedy, MD[2*], Sagar V. Parikh, MD[2,3], Glenda M. MacQueen, MD, PhD[4], Roumen V. Milev, MD, PhD[5], Arun V. Ravindran, MB, PhD[2], and the CANMAT Depression Work Group[6]

The Canadian Network for Mood and Anxiety Treatments (CANMAT) is a not-for-profit scientific and educational organization founded in 1995. In 2015, the CANMAT Depression Work Group began the process of producing new guidelines for the treatment of major depressive disorder (MDD), to update the previous 2009 guidelines.[1] The scope of the guidelines remains the management of adults with unipolar MDD with an identified target audience of community-based psychiatrists and mental health professionals. CANMAT, in collaboration with the International Society for Bipolar Disorders, has published separate guidelines for bipolar disorder.[2]

The editorial group defined 6 sections for inclusion in the CANMAT 2016 Depression Guidelines: (1) Disease Burden and Principles of Care, (2) Psychological Treatments, (3) Pharmacological Treatments, (4) Neurostimulation Treatments, (5) Complementary and Alternative Medicine Treatments, and (6) Special Populations (children/adolescents, women, elderly). Treatment recommendations for patients with MDD and psychiatric/medical comorbidities were published by a CANMAT task force in 2012.[3]

The methods used were similar to the previous CANMAT guidelines that have been well regarded by clinicians. In contrast to other guidelines that use highly formalized evidence summaries that may be less accessible to users, we chose a clinically useful method that balances systematic evidence review with consensus expert opinion by experienced clinicians. Expert panels were established for each of the 6 sections. Members represented content experts from the fields of psychiatry, pharmacy, and psychology. The familiar question-answer format from previous editions was retained because feedback from clinicians affirmed the clinical practicality and ease of use. Each group updated the key questions based on internal and focus group discussions and held regular teleconferences during the guidelines development process.

We focused on evidence published since 2009. For each of the questions, a systematic literature search was conducted by research staff experienced in systematic reviews with medical librarian consultation as needed. Appropriate key words were used to identify English- and French-language studies published between January 1, 2009, and December 31, 2015, in electronic databases (including OVID Medline, PsycInfo, and EMBASE). Relevant studies were identified and reviewed, with an emphasis on meta-analyses and randomized controlled trials (RCTs). Studies were also identified by cross-referencing bibliographies, reviews of other major reports and guidelines, and feedback from experts. The evidence was summarized using evidence tables based on modified Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)[4] for meta-analyses and on Consolidated Standards of Reporting

[1] Department of Psychiatry, University of British Columbia, Vancouver, British Columbia
[2] Department of Psychiatry, University of Toronto, Toronto, Ontario
[3] Department of Psychiatry, University of Michigan, Ann Arbor, Michigan
[4] Department of Psychiatry, University of Calgary, Calgary, Alberta
[5] Department of Psychiatry, Queen's University, Kingston, Ontario
[6] Members of the CANMAT Depression Work Group are listed here: www.canmat.org/workgroups
* Co-first authors.

Corresponding Author:
Raymond W. Lam, MD, University of British Columbia, 2255 Wesbrook Mall, Vancouver, BC, V6T 2A1, Canada.
Email: r.lam@ubc.ca

Katzman *et al. BMC Psychiatry* 2014, **14**(Suppl 1):S1
http://www.biomedcentral.com/1471-244X/14/S1/S1

BMC Psychiatry

REVIEW Open Access

Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress and obsessive-compulsive disorders

Martin A Katzman[1*], Pierre Bleau[2], Pierre Blier[3], Pratap Chokka[4], Kevin Kjernisted[5], Michael Van Ameringen[6], the Canadian Anxiety Guidelines Initiative Group on behalf of the Anxiety Disorders Association of Canada/Association Canadienne des troubles anxieux and McGill University

Abstract

Background: Anxiety and related disorders are among the most common mental disorders, with lifetime prevalence reportedly as high as 31%. Unfortunately, anxiety disorders are under-diagnosed and under-treated.

Methods: These guidelines were developed by Canadian experts in anxiety and related disorders through a consensus process. Data on the epidemiology, diagnosis, and treatment (psychological and pharmacological) were obtained through MEDLINE, PsycINFO, and manual searches (1980–2012). Treatment strategies were rated on strength of evidence, and a clinical recommendation for each intervention was made, based on global impression of efficacy, effectiveness, and side effects, using a modified version of the periodic health examination guidelines.

Results: These guidelines are presented in 10 sections, including an introduction, principles of diagnosis and management, six sections (Sections 3 through 8) on the specific anxiety-related disorders (panic disorder, agoraphobia, specific phobia, social anxiety disorder, generalized anxiety disorder, obsessive-compulsive disorder, and posttraumatic stress disorder), and two additional sections on special populations (children/adolescents, pregnant/lactating women, and the elderly) and clinical issues in patients with comorbid conditions.

Conclusions: Anxiety and related disorders are very common in clinical practice, and frequently comorbid with other psychiatric and medical conditions. Optimal management requires a good understanding of the efficacy and side effect profiles of pharmacological and psychological treatments.

Introduction

Anxiety and related disorders are among the most common of mental disorders. Lifetime prevalence of anxiety disorders is reportedly as high as 31%; higher than the lifetime prevalence of mood disorders and substance use disorders (SUDs) [1-5]. Unfortunately, anxiety disorders are under-diagnosed [6] and under-treated [5,7,8].

These guidelines were developed to assist clinicians, including primary care physicians and psychiatrists, as well as psychologists, social workers, occupational therapists, and nurses with the diagnosis and treatment of anxiety and related disorders by providing practical, evidence-based recommendations. This guideline document is not focused on any individual type of clinician but rather on assessing the data and making recommendations. Subsequent "user friendly" tools and other initiatives are planned.

The guidelines include panic disorder, agoraphobia, specific phobia, social anxiety disorder (SAD), generalized anxiety disorder (GAD), as well as obsessive-compulsive disorder (OCD), and posttraumatic stress disorder (PTSD). Also included are brief discussions of clinically relevant issues in the management of anxiety and related disorders in children and adolescents, women who are pregnant or lactating, and elderly patients, and patients with comorbid conditions.

* Correspondence: mkatzman@startclinic.ca
[1]Department of Psychiatry, University of Toronto, Toronto, ON, M5S 1A1, Canada
Full list of author information is available at the end of the article

Pharmacotherapy - depression

First line (Level 1 Evidence)

Agomelatine (Valdoxan)	MT1 and MT2 agonist; 5-HT2 antagonist	25-50 mg
Bupropion (Wellbutrin)	NDRI	150-300 mg
Citalopram (Celexa)	SSRI	20-40 mg
Desvenlafaxine (Pristiq)	SNRI	50-100 mg
Duloxetine (Cymbalta)	SNRI	60 mg
Escitalopram (Cipralex)	SSRI	10-20 mg
Fluoxetine (Prozac)	SSRI	20-60 mg
Fluvoxamine (Luvox)	SSRI	100-300 mg
Mianserin (Tolvon)	a2-Adrenergic agonist; 5-HT2 antagonist	60-120 mg
Milnacipran (Ixel)	SNRI	100 mg
Mirtazapine (Remeron)	a2-Adrenergic agonist; 5-HT2 antagonist	15-45 mg
Paroxetine (Paxil)	SSRI	20-50 mg
Sertraline (Zoloft)	SSRI	50-200 mg
Venlafaxine (Effexor)	SNRI	75-225 mg
Vortioxetine (Trintellix)		10-20 mg

- Serotonin reuptake inhibitor; 5-HT1A agonist; 5-HT1B partial agonist; 5-HT1D, 5-HT3A, and 5-HT7 antagonist

CANMAT, 2016

Pharmacotherapy - depression

Second line (Level 1 Evidence)

Amitriptyline, clomipramine, and other TCAs		Various doses
Levomilnacipran (Fetzima)	SNRI	40-120 mg
Moclobemide (Manerix)	Reversible inhibitor of MAO-A	300-600 mg
Quetiapine (Seroquel)	Atypical antipsychotic	150-300 mg
Selegiline transdermal (Emsam)	Irreversible MAO-B inhibitor	6-12 mg daily
Trazodone (Desyrel) - Serotonin reuptake inhibitor; 5-HT2 antagonist		150-300 mg
Vilazodone (Viibryd) - Serotonin reuptake inhibitor; 5-HT1A partial agonist		10-40 mg

Third line (Level 1 Evidence)

Phenelzine (Nardil)	Irreversible MAO inhibitor	45-90 mg
Tranylcypromine (Parnate)		20-60 mg
Reboxetinea (Edronax)	Noradrenaline reuptake inhibitor	8-10 mg

CANMAT, 2016

Pharmacotherapy - depression

Table 6. Antidepressants with Evidence for Superior Efficacy Based on Meta-Analyses.

Antidepressant	Level of Evidence	Comparator Medications
Escitalopram	Level 1	Citalopram, duloxetine, fluoxetine, fluvoxamine, paroxetine
Mirtazapine	Level 1	Duloxetine, fluoxetine, fluvoxamine, paroxetine, sertraline, venlafaxine
Sertraline	Level 1	Duloxetine, fluoxetine, fluvoxamine, paroxetine
Venlafaxine	Level 1	Duloxetine, fluoxetine, fluvoxamine, paroxetine

CANMAT, 2016

Adjunctive Pharmacotherapy - depression

First line		
Aripiprazole	Level 1	2-15 mg
Quetiapine	Level 1	150-300 mg
Risperidone	Level 1	1-3 mg
Second line		
Brexpiprazole	Level 1	1-3 mg
Bupropion	Level 2	150-300 mg
Lithium	Level 2	600-1200 mg (therapeutic serum levels)
Mirtazapine	Level 2	30-60 mg
Modafinil	Level 2	100-400 mg
Olanzapine	Level 1	2.5-10 mg
Triiodothyronine	Level 2	25-50 mcg
Third line		
Other antidepressants	Level 3	Various
Other stimulants (eg. methylphenidate)	Level 3	Various
TCAs (e.g., desipramine)	Level 2	Various
Ziprasidone	Level 3	20-80 mg bid
Experimental Ketamine	Level 1	0.5 mg/kg, single intravenous dose
Not recommended		
Pindolol	Level 1 (lack of efficacy)	Not applicable

CANMAT, 2016

Psychotherapy - Depression

Table 5. Recommendations for Psychological Treatments for Acute and Maintenance Treatment of Major Depressive Disorder.

	Acute Treatment	Maintenance Treatment (Relapse Prevention)
Cognitive-behavioural therapy (CBT)	First line (Level 1)	First line (Level 1)
Interpersonal therapy (IPT)	First line (Level 1)	Second line (Level 2)
Behavioural activation (BA)	First line (Level 1)	Second line (Level 2)
Mindfulness-based cognitive therapy (MBCT)	Second line (Level 2)	First line (Level 1)
Cog/behav. analysis system of psychotherapy	Second line (Level 2)	Second line (Level 2)
Problem-solving therapy (PST)	Second line (Level 2)	Insufficient evidence
Short-term psychodynamic psychotherapy (STPP)	Second line (Level 2)	Insufficient evidence
*Telephone-delivered CBT and IPT	Second line (Level 2)	Insufficient evidence
*Internet- and computer assisted therapy	Second line (Level 2)	Insufficient evidence
Long-term psychodynamic psychotherapy (PDT)	Third line (Level 3)	Third line (Level 3)
Acceptance and commitment therapy (ACT)	Third line (Level 3)	Insufficient evidence
*Video-conferenced psychotherapy	Third line (Level 3)	Insufficient evidence
Motivational interviewing (MI)	Third line (Level 4)	Insufficient evidence

CANMAT, 2016

Pharmacotherapy - GAD

Table 24 Recommendations for pharmacotherapy for GAD

First-line	Agomelatine, duloxetine, escitalopram, paroxetine, paroxetine CR, pregabalin, sertraline, venlafaxine XR
Second-line	Alprazolam, bromazepam, bupropion XL, buspirone, diazepam, hydroxyzine, imipramine, lorazepam, quetiapine XR, vortioxetine
Third-line	Citalopram, divalproex, fluoxetine, mirtazapine, trazodone
Adjunctive therapy	Second-line: pregabalin Third-line: aripiprazole, olanzapine, quetiapine, quetiapine XR, risperidone Not recommended: ziprasidone
Not recommended	Beta blockers (propranolol), pexacerfont, tiagabine

Canadian clinical practice guidelines anxiety, PTSD, OCD - 2014

Pharmacotherapy - PTSD

Table 30 Recommendations for pharmacotherapy for core symptoms of PTSD

First-line	Fluoxetine, paroxetine, sertraline, venlafaxine XR
Second-line	Fluvoxamine, mirtazapine, phenelzine
Third-line	Amitriptyline, aripiprazole, bupropion SR, buspirone, carbamazepine, desipramine, duloxetine, escitalopram, imipramine, lamotrigine, memantine, moclobemide, quetiapine, reboxetine, risperidone, tianeptine, topiramate, trazodone
Adjunctive therapy	Second-line: eszopiclone, olanzapine, risperidone
	Third-line: aripiprazole, clonidine, gabapentin, levetiracetam, pregabalin, quetiapine, reboxetine, tiagabine
	Not recommended: bupropion SR, guanfacine, topiramate, zolpidem
Not recommended	Alprazolam, citalopram, clonazepam, desipramine, divalproex, olanzapine, tiagabine

Psychotherapy – GAD and PTSD

- GAD
  - CBT remains the gold standard, MBCT, acceptance-based behavior therapy, meta-cognitive therapy, psychodynamic therapy can also be used
  - No evidence for interpersonal or emotional processing therapy

- PTSD
  - CBT (trauma focused), EMDR, stress management, cognitive processing (narrative) therapy, DBT

Canadian clinical practice guidelines anxiety, PTSD, OCD - 2014