Phoenix AUSTRALIA

Medication prescribing algorithm for the treatment of PTSD

The following is an example of an evidence-informed clinical tool for use in prescribing medications for PTSD. The algorithm was developed and used by Professor Jonathan Bisson and his team at Cardiff University School of Medicine in Wale and is reproduced below without amendment. While one medication (trazadone) is not available in Australia, the algorithm is otherwise applicable for use in the Australian context. Prescribers should be aware of restrictions that may apply to the Government subsidisation of medications outlined in the Pharmaceutical Benefits Scheme (PBS) that may lead to increased costs for patients with some medications.

Cardiff and Vale Traumatic Stress Service
PTSD Prescribing Algorithm – V2 – 30 May 2019

Introduction

PTSD is a mental disorder that may develop after exposure to a particularly distressing and catastrophic event with a lifetime prevalence between 1.9 per cent and 8.8 per cent.[1] The disorder is characterised by symptoms of re-experiencing, hyperarousal, avoidance, and altered mood and cognition.

Currently the recommended first line treatment for PTSD is trauma based psychological therapy, with pharmacological treatment only being considered as a second line option.[2]

The recently released ISTSS PTSD Prevention and Treatment Guidelines[3], which are based on the most up to date empirical evidence, gave recommendations for Sertraline, Paroxetine, Fluoxetine, Venlafaxine and Quetiapine as pharmacological treatments of PTSD.[3] NICE (2018) have also updated their guidelines on PTSD, recommending SSRIs or Venlafaxine as pharmacological treatment of PTSD.[2] This contrasts with the previous NICE (2005) guidelines which recommended the use of Mirtazapine, Amitriptyline, Phenelzine and Paroxetine.

Sub-optimal PTSD prescribing practice has been a continuing problem in clinical practice. Some evidence for this came from a research project by a Cardiff Medical student (Amy Baker) in 2018 which looked to assess the use of medication in the treatment of PTSD in the Cardiff and Vale Traumatic Stress Service by auditing it against the NICE guidelines and other evidence-based treatment. The results found that only 64% of patients were on NICE or evidence based recommended pharmacological treatment and the average dose taken of each recommended medication was 42.82 per cent of the recommended maximum dose for each drug.[4]

There may be a number of reasons for sub-optimal prescribing but it is likely that more people with PTSD would benefit from medication if it were prescribed according to the current evidence base. To facilitate this, in the absence of an existing prescribing tool for PTSD, an algorithm for PTSD prescribing has been developed to help clinicians make appropriate decisions about the pharmacological treatment for people with PTSD.

PTSD Pharmacological Prescribing Algorithm

Discuss drug choice with person with PTSD

Include:

- Potential adverse effects (side effects, discontinuation symptoms).
- Potential interactions with concomitant medication or physical illness.
- Individual's perception of the efficacy and tolerability of any SSRIs/SNRIs in the past.

If individual has no contraindicated medical reasons and gives consent, an SSRI should be initiated.

Start SSRI

1st LINE

Fluoxetine

- Initiate on 20mg/day.
- Dosage can be increased by 20mg/day increments at monthly appointments with clinician to a maximum of 60mg/day based on clinical response and tolerability.

Paroxetine

- Initiate on 20mg/day.
- Dosage can be increased by 20mg/day increments at monthly appointments with clinician to a maximum of 60mg/day based on clinical response and tolerability.

Sertraline

- Initiate on 50mg/day.
- Dosage can be increased by 50mg/day increments at monthly appointments with clinician to a maximum of 200mg/day based on clinical response and tolerability.

If SSRI is not tolerated or still showing clinically significant symptoms

2nd LINE

Change SSRI or start on Venlafaxine

Venlafaxine

- Initiate on 75mg/day.
- Dosage can be increased by 75mg/day increments at monthly appointments with clinician to a maximum of 300mg/day based on clinical response and tolerability.

If still showing clinically significant symptoms and Venlafaxine better tolerated

If both SSRI and Venlafaxine are not tolerated at all

If still showing clinically significant symptoms and SSRI better tolerated

Adjunctive therapy

Venlafaxine
+
Quetiapine/Prazosin (Adjuncts)
(see algorithm notes for Prazosin dosing)

Adjunctive therapy

SSRI
+
Quetiapine/Prazosin (Adjuncts)
(see algorithm notes for Prazosin dosing)

If still showing clinically significant symptoms

If still showing clinically significant symptoms

3rd LINE

Quetiapine

- Initiate 25mg/day at night. After 1 week 25mg bd.
- Dosage can be increased by 50mg/day increments at monthly appointments with clinician to a maximum of 400mg/day* based on clinical response and tolerability.

If still showing clinically significant symptoms

4th LINE

Consider changing to alternative less evidence-based treatment

Amitriptyline
Mirtazapine
Phenelzine

Algorithm notes

1. If a person with PTSD is already on psychotropic medication, this should be reduced and stopped as per BNF guidance before starting an alternative.

2. From the start of treatment consider **adjunction** of SSRI with:

   - **Quetiapine** – If marked agitation present in patient.
   - **Trazadone 50mg-100mg night/ Mirtazapine 15mg night** – If insomnia present in patient.

3. Side effect profile is similar for all SSRIs, however notable considerations to make when choosing SSRI:

   - **Sertraline**: Fewer side effects.
   - **Fluoxetine:** More Alerting – potentially less suited if person with PTSD is agitated at start.
   - **Paroxetine:** Greater risk of discontinuation symptoms.

4. SSRIs/SNRIs have many drug interactions - even with common drugs used to manage rudimentary illnesses. Therefore, it is important to be fully aware of what concomitant medications the patient is on before initiating treatment.

   Here is a brief outline of some common drug interactions with SSRIs/SNRIs and their potential consequences if co-prescribed[5]:

   - Other serotonergic drugs = Increased risk of Serotonin Syndrome.
   - Drugs that affect haemostasis (e.g., Aspirin and NSAIDs) = Increased risk of bleeding (especially Upper GI)
   - Drugs inducing hyponatraemia (e.g., Diuretics) = Increased risk of developing hyponatraemia.
   - Other drugs metabolised by CYP2D6.

   For a full and detailed outline of the drug interactions for SSRIs/SNRIs and for the other drugs named in the algorithm please visit https://bnf.nice.org.uk.

5. Initiating **Prazosin**

As there is a risk of severe first-does hypotension, the first and second doses should be taken whilst sitting on a bed just before lying down. It is important to keep well hydrated while taking prazosin and to get up slowly – initially sitting up on the bed and then slowly standing up. For the first two nights it is important to sit on the toilet to pass water rather than stand up.

Time	Morning	On going to bed
Days 1-2	Nil	1mg
Days 3-7	Nil	2mg
Week 2	1mg	4mg
Week 3	2mg	6mg
Week 4	2mg	10mg

6. **Risperidone** also has evidence to be used instead of Prazosin or Quetiapine in adjunctive therapy.

7. **Quetiapine** has been used at a maximum dosage of **800mg/day** in PTSD research studies. However, the mean dose of Quetiapine used in PTSD patients in the research studies was **258mg/day**, therefore a lower maximum dose has been recommended in this algorithm although some individuals may benefit from higher doses. It may, therefore be appropriate to use higher doses in some instances; the decision should be made based on the clinician's judgement.

Common adverse effects[5]

Drug	Sedation	Postural hypotension	Cardiac conduction disturbance	Antichol-inergic effects	Nausea/ vomiting	Sexual dysfunction
Sertraline	-	-	-	-	++	+++
Paroxetine	+	-	-	+	++	+++
Fluoxetine	-	-	-	-	++	+++
Venlafaxine	-	-*	+	-	+++	+++
Amitriptyline	+++	+++	+++	+++	+	+++
Mirtazapine	+++	+	-	+	+	-
Phenelzine	+	+	+	+	+	+

Drug	Sedation	Weight gain	Akathisia	Parkinson-ism	Antichol-inergic effects	Hypo-tension	Prolactin elevation
Quetiapine	++	++	-	-	+	++	-
Risperidone	+	++	+	+	+	++	+++

- = Very low/none
+ = Low
++ = Moderate
+++ = High incidence/severity
* = Hypertension reported

For full side effect profile for these drugs and more information see https://bnf.nice.org.uk

Monitoring requirements

All SSRIs and SNRIs	If suicidal ideation prior to commencing treatment monitor on a **weekly** basis initially
Venlafaxine	Blood pressure monitoring at **initiation**, after every **change of dose** and then at **yearly** intervals.
Quetiapine	ECG before starting medication for **all** patients
All antipsychotics	Blood tests for: Urea and electrolytes Full blood count Lipids (fasting if possible) Glucose (fasting if possible) Prolactin

References

1. Bisson JI, Cosgrove S, Lewis C, Robert NP. Post-traumatic stress disorder. *BMJ* (Clinical research ed). 2015;351:h6161-h. doi: 10.1136/bmj.h6161
2. Post-traumatic stress disorder | Guidance and guidelines | NICE [Internet]. *Nice.org.uk*. 2018 [cited 29 January 2019]. Available from: https://www.nice.org.uk/guidance/ng116
3. International Society for Traumatic Stress Studies. *Post-traumatic Stress Disorder: Prevention and Treatment Guidelines*. International Society for Traumatic Stress Studies;2018 [accessed 27th Oct 2018]. Available from: https://www.istss.org/
4. Baker A. *The Use of Medication in the Treatment of Post-Traumatic Stress Disorder* [Year 3 SSC]. Cardiff. Cardiff University;2018.
5. Taylor D, Barnes TRE, Young AH. *The Maudsley Prescribing Guidelines in Psychiatry*. Newark: John Wiley & Sons, Incorporated; 2018.

The algorithm was developed by Will Dekker (Medical Student), Amy Baker (Medical Student) and Jon Bisson (Professor in Psychiatry).