Cardiff Post-Traumatic Stress Disorder Prescribing Algorithm

Introduction

Post-traumatic stress disorder (PTSD) is a common mental disorder that may develop after exposure to a particularly distressing and catastrophic event. The disorder is characterised by symptoms of re-experiencing, hyperarousal, avoidance, and altered mood and cognition[1].

Currently, the recommended first line treatment for PTSD is trauma-focused psychological therapy, with pharmacological treatment being considered as a second line option[2,3].

The recently published 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. The National Institute for Health Excellence have also recently updated their guidelines on PTSD, recommending SSRI's or Venlafaxine as pharmacological treatments of PTSD[2].

Sub-optimal PTSD prescribing practice has been a continuing problem in clinical practice. Some evidence for this came from an audit of the use of medication in the treatment of PTSD in the Cardiff and Vale Traumatic Stress Service by auditing it against the ISTSS and NICE recommended treatments. The results found that only 64% of people with PTSD were on recommended pharmacological treatment and the average dose taken of each recommended medication was 42.82% 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 SSRI's/SNRI's in the past.

If individual has no contraindicated medical reasons and gives consent, a **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)

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.

If still showing clinically significant symptoms.

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.
- **Trazadone 50mg-100mg night / Mirtazapine 15mg night** – If insomnia present.

3) Side effect profile is similar for all SSRI's, however notable considerations to make when choosing SSRI:

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

4) SSRI's/SNRI's 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 person with PTSD is on before initiating treatment.

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

- Other serotonergic drugs = Increased risk of Serotonin Syndrome.
- Drugs that affect haemostasis (e.g. Aspirin and NSAID's) = 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 SSRI's/SNRI's 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 people with PTSD 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	Anticholinergic effects	Nausea/Vomiting	Sexual Dysfunction
Sertraline	-	-	-	-	++	+++
Paroxetine	+	-	-	+	++	+++
Fluoxetine	-	-	-	-	++	+++
Venlafaxine	-	-*	+	-	+++	+++
Amitriptyline	+++	+++	+++	+++	+	+++
Mirtazapine	+++	+	-	+	+	-
Phenelzine	+	+	+	+	+	+

Drug	Sedation	Weight gain	Akathisia	Parkinsonism	Anticholinergic effects	Hypotension	Prolactin elevation
Quetiapine	++	++	-	-	+	++	-
Risperidone	+	++	+	+	+	++	+++

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

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

Monitoring requirements

All SSRI's and SNRI's	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** people with PTSD
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.

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